The UNESCO COURIER

FEBRUARY 1991

INTERVIEW WITH NOBEL LAUREATE FRANÇOIS JACOB

Somewhere, nowhere...

THE QUEST FOR UTOPIA

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encounters

We invite readers to send us photographs to be considered for publication in this feature. Your photo should show a painting, a sculpture, piece of architecture or any other subject which seems to be an example of cross-fertilization between cultures. Alternatively, you could send us pictures of two works from different cultural backgrounds in which you see some striking connection or resemblance. Please add a short caption to all photographs.

WOMAN IN AN INTERIOR
1982, pastel (81 x 57 cm)
by Irakli Parjiani

This work by a Georgian artist born in 1950 contains echoes of interiors by the great seventeenth-century Dutch master Vermeer. In it, writes Ketevan Kintsurashvili, an art historian with the Georgian Art History Institute (Tbilisi), the artist uses a style that is resolutely modern to express nostalgia for classical art.

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LETTERS TO THE EDITOR

The UNESCO COURIER

44th YEAR
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"The Governments of the States parties to this Constitution on behalf of their peoples declare,

"that since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed...

"that a peace based exclusively upon the political and economic arrangements of governments would not be a peace which could secure the unanimous, lasting and sincere support of the peoples of the world, and that the peace must therefore be founded, if it is not to fail, upon the intellectual and moral solidarity of mankind.

"For these reasons, the States parties ... are agreed and determined to develop and to increase the means of communication between their peoples and to employ these means for the purposes of mutual understanding and a truer and more perfect knowledge of each other's lives..."

Extract from the Preamble to the Constitution of Unesco, London, 16 November 1945

Cover: *Score for an Undefeated Barbarian* (1989), watercolour by Joël Cazaux.

Back cover: Detail from *Rapports au seuil*, mixed media composition by the contemporary Venezuelan artist Pancho Quilici.

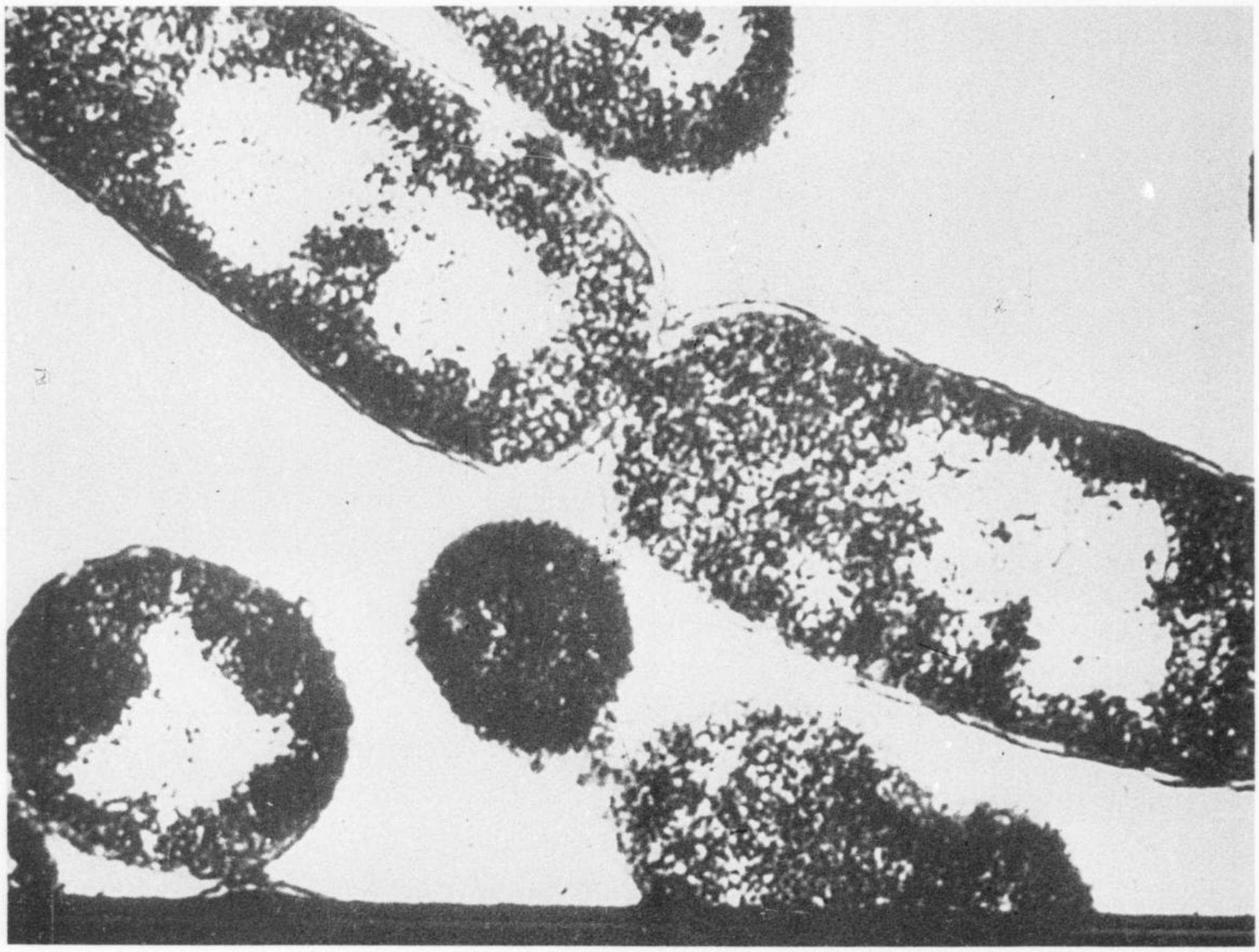
INTERVIEW

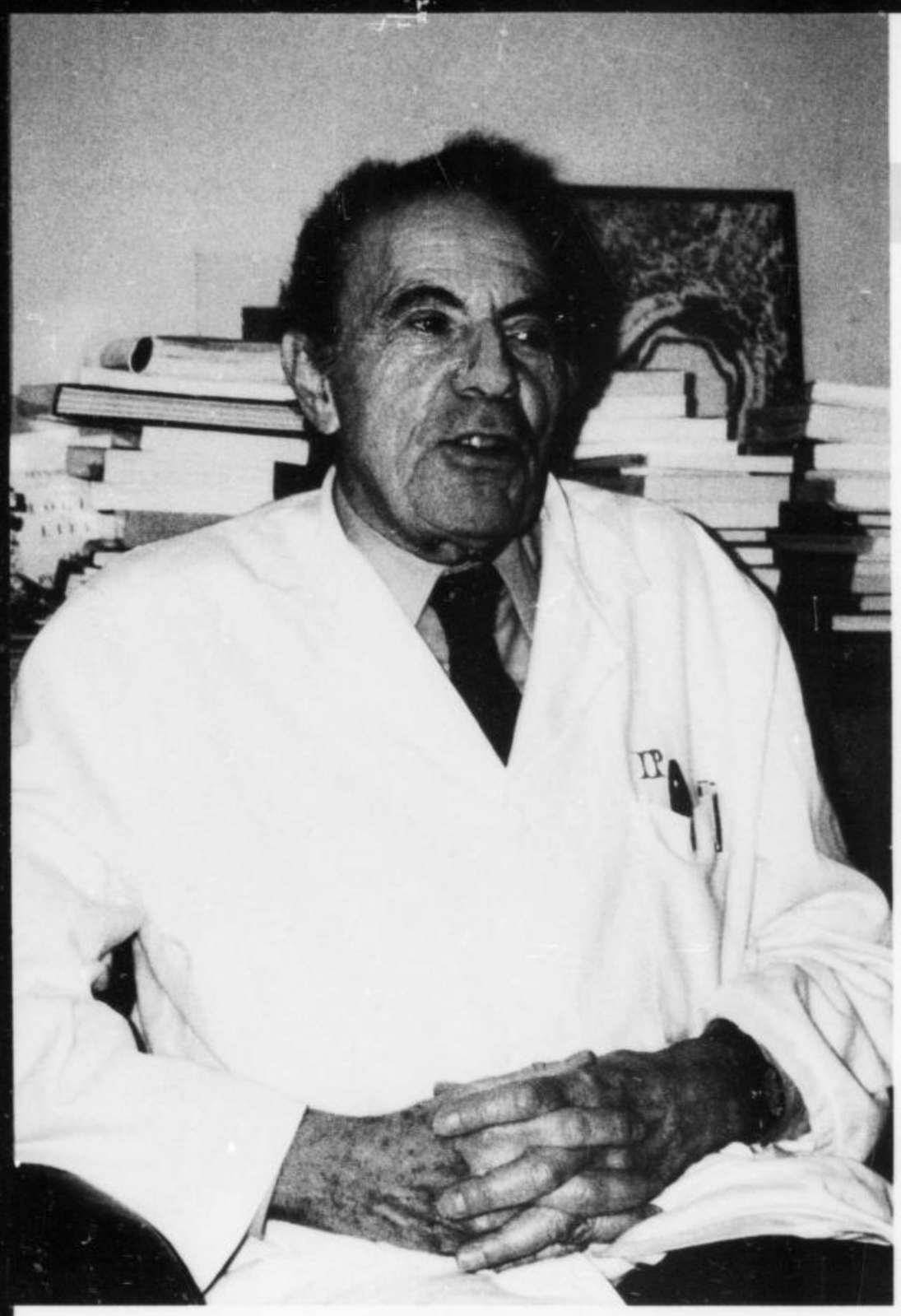
François Jacob

■ *In one of your books,* The Logic of Life *(1970), you show that the history of science and the history of mankind coincide, and that the results of biological research influence our changing image of the world. How do things stand today when mastery of the mechanisms of life, and especially of the keys of human heredity, is causing both hope and anxiety?*

– In that book I was trying to understand the evolution of our ideas about life, about the way in which living beings are produced. Our understanding of the processes of life has grown constantly. Until the sixteenth century each birth was seen as a creation. Each new being was shaped by divine intervention. At the origin of each life was an act by the Creator. It was not until the late seventeenth and the early eighteenth century that the idea of reproduction replaced that of creation.

Until the eighteenth century, the study of living beings was limited to their external appearance. Investigation went no further than the visible structure. Natural history classified and compared forms in this way and defined genera or species. Around the end of that century, there came a radical change in the way of analysing living beings, as the use



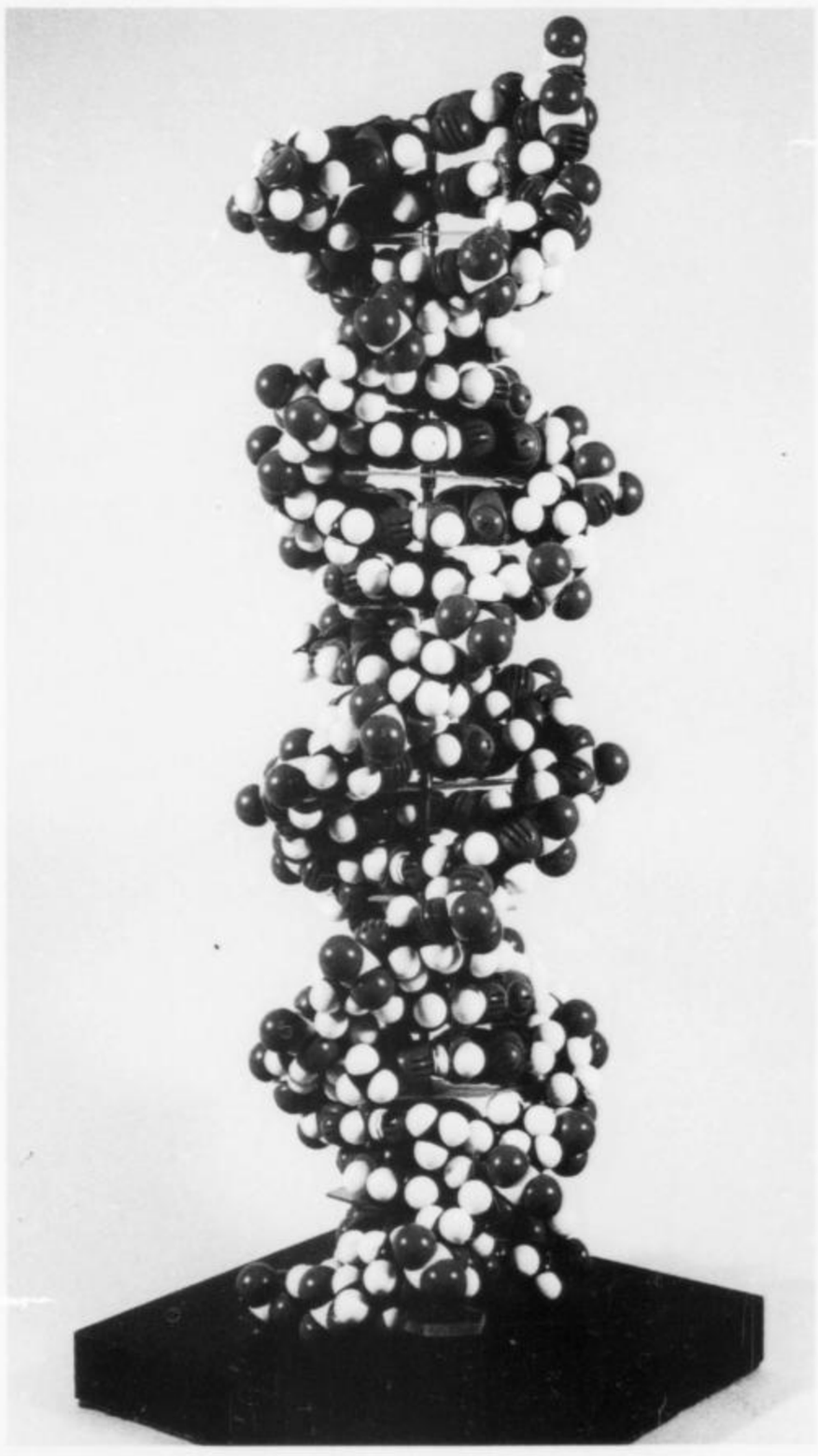


We are programmed,
but programmed
to learn...

Opposite page, the *Escherichia coli* bacterium, which was used by Professor Jacob in his research on cellular genetics. Below, model of the molecular structure of DNA (deoxyribonucleic acid).

of the term "biology" suggests. It was discovered that there was an "organization" within the bodies of man and animals. Then, in the middle of the nineteenth century, it was realized that the body consists of elementary units called cells. At the end of the century investigation went even deeper and chromosomes were discovered. Then, at the beginning of this century, came the discovery of the genes, which, in the nucleus of the cell, govern characteristics. Finally, in the middle of this century, molecular biology penetrated even more deeply into the secrets of life when it discovered the chemical and molecular structure of the gene: DNA or deoxyribonucleic acid.

Molecular biology seeks to explain the astonishing properties of living creatures in terms of the structure and the interactions of the molecules which comprise the various cells of the organism. In particular, this new biology has tried successfully to solve the age-old mystery of heredity.



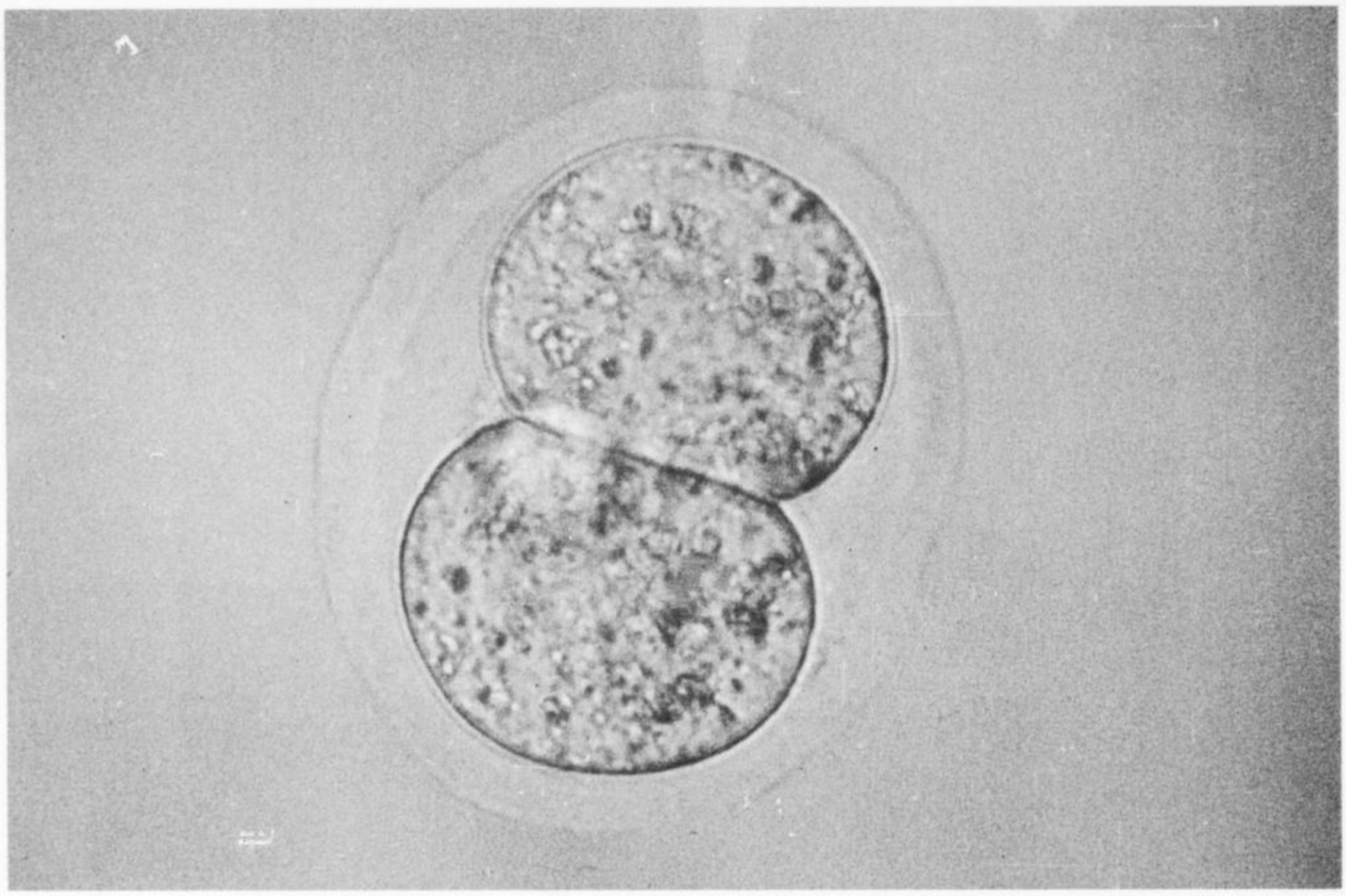
■ *What is the status of the notion of teleology, which has haunted all modern thinking on reproduction? You wrote in* The Logic of Life *that "For a long time, the biologist treated teleology as he would a woman he could not do without, but did not care to be seen with in public. The concept of programme has made an honest woman of teleology".*

— The problem is couched in these terms: as a general rule nature does not follow a plan. But in the case of living beings, there clearly are phenomena which take place according to

a plan in order to attain a goal. Reproduction is one example. Its result is known in advance. We know that only a duck can result from the coupling of two ducks. For a long period people wanted to explain this finality in terms of a "life force" which was not governed by the laws of physics and chemistry. Molecular biology has shown that the chromosomes of the fertilized egg, half received from the father and half from the mother, contain in coded form all the instructions required for the making of a new organism. They contain what has been called a genetic programme. This is how we can explain the apparent finality which manifests itself in the development of an embryo.

■ *Does the genetic programme also have a bearing on psychological characteristics? What is current thinking on the old controversy about nature and culture, innate and acquired characteristics?*

— I think it is absurd to postulate a complete antithesis between the innate and the acquired. Modern biologists see hereditary structures and learning as mingled and continually interacting. If you blindfold a cat at birth and prevent it from seeing, when the blindfold is removed two weeks later the cat has become blind. But if you put the blindfold on when the cat is two or three months old, the cat can see normally when you remove it.



**Stages in the development of a mouse.
From left to right:
the fertilized egg divides;
the two cells divide into four;
the fully-formed embryo.**

An individual is thus the result of a programme inscribed in the genes received from its two parents. However, it is different from them. Why? Evolution has found a clever way of ensuring that all organisms of the same species are different from each other. Each time the blend is different, with half of the programme coming from the mother and half from the father. Thus the genetic equipment of each being contains the indelible traces of its individuality, of its differences from all its past, present and future congeners, except for identical twins.

These differences permit evolution to encourage some rather than others. Each programme is not entirely rigid. It defines structures which are potentialities, probabilities, tendencies. Genes only determine the constitution of the individual.

We are all different, and the way in which living beings reproduce is arranged so that we shall be so. This is why the day came when man needed to formulate the concept of equality. If we were all identical, like a population of bacteria, the idea of equality would be quite unnecessary.

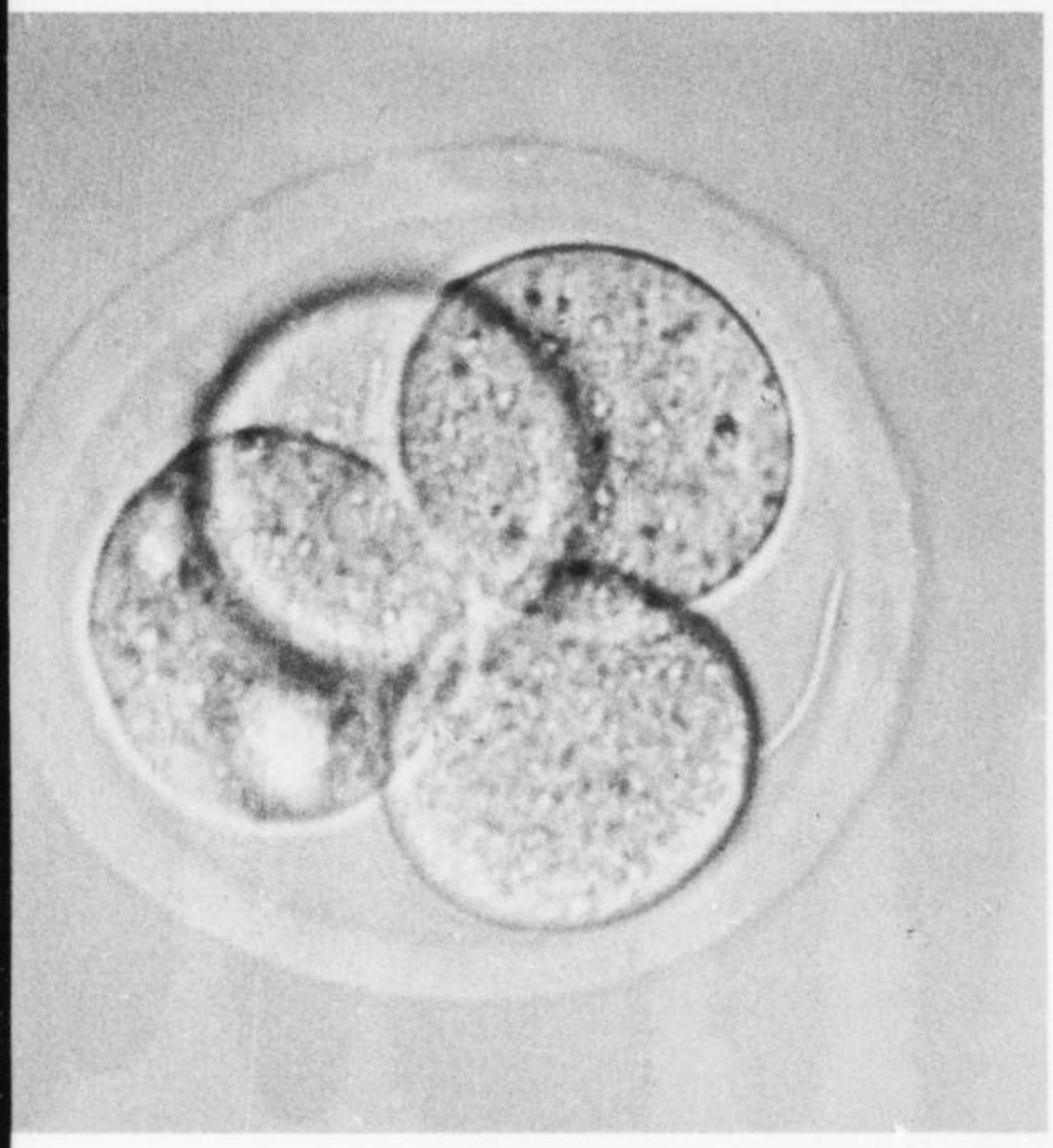
The whole system probably functions in this way. Learning stabilizes certain circuits and the others degenerate. It chooses from among pre-existing possibilities. The making of an individual, physically, intellectually, morally and mentally, corresponds to a permanent interaction between the innate and the acquired.

■ *Would it be correct to say that in every child who is deprived of opportunities for fulfilment, we kill a Mozart?*

— Let's not exaggerate. Each individual harbours possibilities of excelling in a certain field. It may be music, or high jumping, or carpentry. We just have to find out which one. That's the most difficult thing. I think that education does

not try hard enough to exploit the potential of each child. But that doesn't mean that in each child the genius of a Mozart is only waiting for an opportunity to express itself...

■ ***You have also written that "Each being contains in its chromosomes all its own future, the stages of its development". So what margin of freedom do we have?***
—A considerable margin. We exploit to a greater or lesser degree the possibilities inscribed in our chromosomes. And each culture orientates these possibilities in its own way. You learn to speak Bantu or Eskimo, depending on whether you are born among the Bantu or the Eskimos. That is one



system of selection. The genetic programme fixes in the individual a framework into which the culture introduces a certain hierarchy of values, certain forms of incentive or motivation. We are programmed, but programmed to learn...

■ ***To imagine?***
— Yes. We are rather special animals who never stop learning and searching. Horses gallop, birds fly, fleas jump. In our case, we function with our imagination. In this context I should like to discuss a widely-held idea about the supposed difference between scientific and artistic activities. It is often said that the imagination, the creative capacity attributed to the artist, whether he is making a picture, a symphony or a novel, is absent from scientific work. The scientist is supposed to lift the veil which hides a pre-established truth. It's not as simple as that. In scientific work as in the work of the artist, the element of imagination is, at least at the outset, very similar. If you look at the process from the beginning, the elucidation of the structure of the atom or of DNA is as much a creation as a discovery.

■ ***There is room for astonishment, for the unexpected.***
— The whole system is so arranged that we don't know what will happen tomorrow. And yet we can only live in relation to the future. This accounts for the astonishing interest in astrology! We spend our time looking ahead, trying to make sense of things. Man finds it hard to accept that the world is what it is and not otherwise. Why do bodies fall, not rise? Why do we age? Why are there leaves on the trees? That's the way it is! We want everything to have a meaning.

Take the case of evolution: we find it hard to accept that it is purely a matter of tinkering. However different they may appear, organisms all consist of the same elements, which are simply redistributed and rearranged differently in different organisms. What distinguishes a lion from a butterfly, a fly from a hen or a worm from a whale, is simply the different organization, the different arrangement of the same materials, the same cells, the same molecules. It's amazing but that's the way it is.

What's more, there are lots of cases where this process

has been unsuccessful in nature, in the human body. Do you know how many spontaneous miscarriages take place in nature? Fifty per cent. The mechanism that governs the entire system of life has a 50 per cent failure rate. And yet the system works. Amazing isn't it?

■ ***Shall we not want to influence this molecular tinkering ourselves, if it is technically possible? There is a frightening possibility of genetic manipulation...***

— The great success of molecular biology has been to understand the functioning of the genetic mechanisms of heredity. After finding out how genes function and reproduce themselves, we have acquired the capacity to affect the genes themselves through genetic engineering. It is, for example, possible to isolate a gene, splice it to others, and even insert it into another organism. Genetic engineering is simply the imitation of nature's tinkering in laboratory conditions.

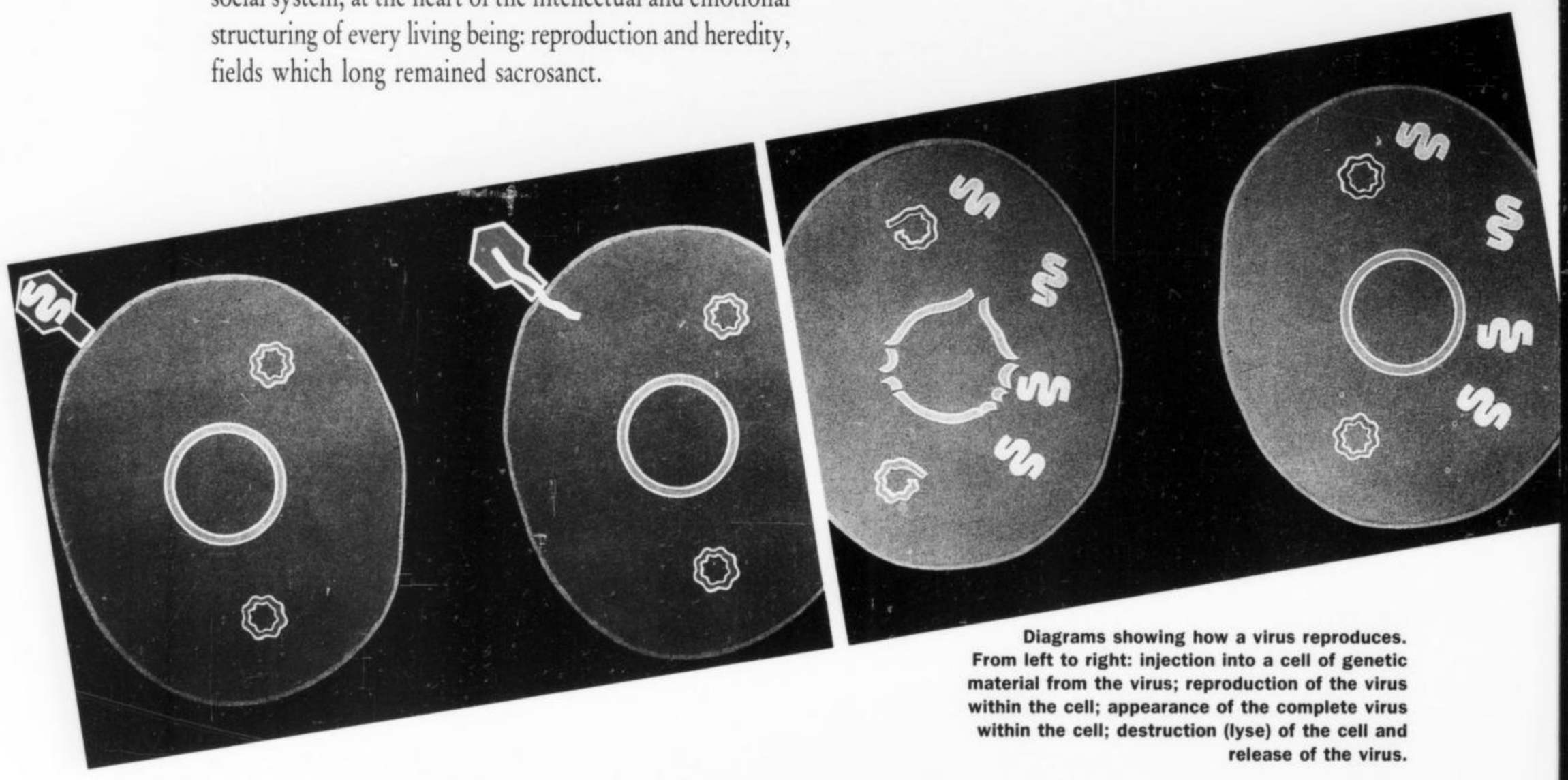
This power, it is true, is causing anxiety. Modern biology appears so formidable because it is concerned with what is at the very heart, not only of every living system, but of every social system, at the heart of the intellectual and emotional structuring of every living being: reproduction and heredity, fields which long remained sacrosanct.

Here we must make a distinction of crucial importance. On the one hand between the input of new knowledge—research which is by definition unpredictable, and whose unpredictability and alarming aspects must be accepted—and on the other its potential applications. The day man was able to use iron, he could make a knife and use it just as easily to peel an apple as to murder one of his fellows.

The application of scientific knowledge must be undertaken by decision of society as a whole. A society must be able to decide whether to encourage or to prevent a given application of a scientific discovery.

But society should not restrict, still less prevent, the quest for knowledge in the life sciences. This quest must be carried out in total freedom, since it makes a great contribution to our knowledge of ourselves and to the struggle to improve the human condition. At the same time, the applications of this knowledge must kept under constant surveillance. We must be vigilant.

Genetic engineering has become the indispensable tool for all research on living beings. It is necessary for studying



Diagrams showing how a virus reproduces. From left to right: injection into a cell of genetic material from the virus; reproduction of the virus within the cell; appearance of the complete virus within the cell; destruction (lyse) of the cell and release of the virus.

The French biologist **François Jacob** who (with André Lwoff and Jacques Monod) was awarded the Nobel Prize for Physiology or Medicine in 1965, is one of the great figures of contemporary science. He originally intended to become a surgeon, and was a medical student when he joined the Free French Forces in 1940. After the war he finished his medical studies but, unable to practise surgery because of wounds contracted during the Normandy landings in 1944, he turned to biology. In 1950 he joined the Pasteur Institute (Paris) as a research assistant and ten years later became head of the department of cellular genetics. He has also been president of the Institute's board of governors. In 1964 he was appointed professor of cellular genetics at the Collège de France. His work has been principally concerned with the genetic mechanisms of bacteria and bacterial viruses, the transmission of genetic information and regulatory activities in bacteria. His publications translated into English include *The Logic of Life* and *The Possible and the Actual* (new edition, Penguin, London, 1989) and his autobiography, *The State Within* (Unwin Hyman, London, 1988).

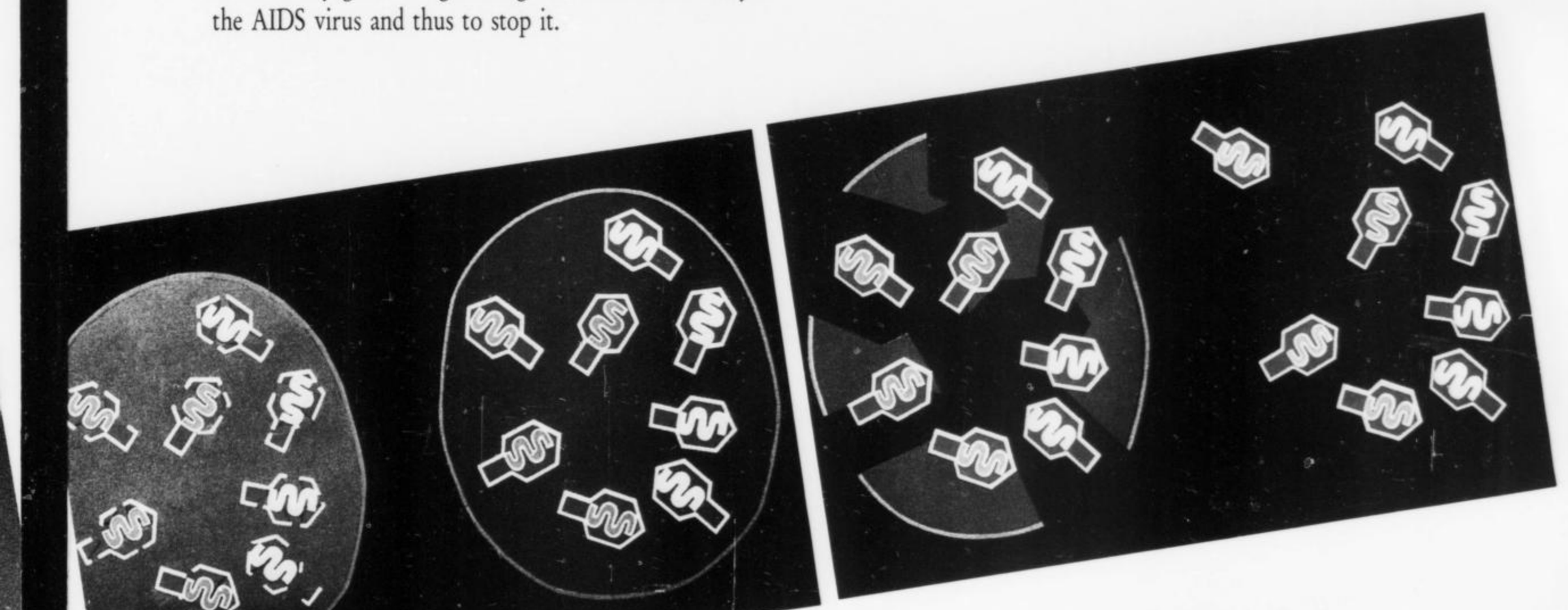
the development of the embryo, hereditary diseases, the brain, and even evolution. It provides medicine with weapons of matchless power of diagnosis, prevention and treatment.

Genetic engineering, for example, makes it possible to understand the mechanisms at the origin of cancers. Human body cells form a society and obey precise regulations. In the case of cancer, some cells start to multiply anarchically because they have become deaf to the signals governing their multiplication. But it is only in the last few years, as a result of genetic engineering, that we have learned how to locate, in different types of cancer, the mutant genes which allow the cell not to heed these signals. For the first time, we thus have the possibility of access to the very mechanism of the illness. Only genetic engineering will enable us to analyse the AIDS virus and thus to stop it.

a person—who would then transmit them to his or her offspring. To touch the reproductive cells is to touch the human genome, the genetic heritage of humanity. Biologists and doctors are unanimous that this should be absolutely forbidden.

■ *What exactly is the genome?*

— It is the set of genes that constitutes the genetic material of a given individual or species. These genes are carried by chromosomes whose principal constituent is DNA, a very long molecule formed by the sequence of four chemical radicals. In man, the forty-six chromosomes contain some 3,000 million of these radicals and correspond roughly to



the 100,000 genes which are necessary for a human being to take shape and live.

It was long thought that the more complex an organism is, the more DNA it would contain. But it has been found that the salamander and the lily have about ten times more DNA than a person. Even leaving anthropomorphism aside, a human being seems more complicated to make than a lily or a salamander. It would seem that the genome of rather complex organisms contains only a small fraction of DNA, from 5 to 10 per cent, corresponding to real genes. We don't really know what the rest is for. It contains many repeated sequences which are probably useless. Some believe it is a kind of waste, a residue of various genetic mishaps...

The human genome is being studied more and more systematically. Efforts are being made to map it with precision. One day we shall be able to fully decipher the hereditary information contained in human chromosomes. This will be an extraordinary tool, not only for medicine. We shall have to take great care if we are to make good use of it. In the name of freedom. ■

■ *What can genetic engineering do in the case of hereditary diseases?*

— We must make a distinction between the cells in a person's body, or somatic cells, on the one hand, and the reproductive cells on the other. It is possible to treat a sick person's somatic cells through genetic engineering. In the case of a hereditary blood disease, for example, it is possible to modify the genetic constitution of sick cells by replacing a damaged gene with a healthy gene, then reinjecting into the patient his own cells thus treated. This treatment follows the same principle as that of artificial limbs, grafts, or organ transplants. Only the somatic cells of the patient are targeted; the reproductive cells are not touched. There is no reason why this kind of treatment should not be used when we know how to do it properly.

But I believe that for a long time to come we should totally forbid any kind of experiment on the injection of genes into all the cells, including the reproductive cells of

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ATTEMPTING THE IMPOSSIBLE

BY FEDERICO MAYOR

"IMAGINATION is more important than knowledge," said Albert Einstein, and his remark seems more relevant than ever today. The world is changing so rapidly that our complacency and established ways of thinking are continually being challenged. The more the technocrat's certainties and the planner's pride are confounded by hard facts, the more the individual capacity for inventiveness is at a premium. "All is flux," said Heraclitus over 2,000 years ago. Have we forgotten that change is inherent in the human condition? We are living at a time when the pace of historical change is such that there is an unparalleled need for new thinking.

And what do we see? At the very moment when we ought to be guided and impelled by the creative spirit, people are asserting that utopia is dead. What justification is there, in fact, for rejecting the idea of utopia as a beacon of inspiration and a guide to action? Many researchers today see a propensity to look beyond existing reality as the hallmark of the utopian impulse, of the intense desire for change that re-emerges whenever pragmatism sinks into arid, sterile routine. Most of them believe that any great human adventure, whether in science, religion or politics, is an offshoot of some form of utopian thought. Perhaps utopia can sketch a profile of the future.

But what kind of utopia? And on what terms? Utopia is by definition transcendent, a child of excess which nevertheless remains within the bounds of reason. Such "reasonable immoderation" can make an impact on the real world by raising its aspirations, without for a moment losing sight of respect for mankind. Did not this kind of ambition and utopianism inspire Martin Luther King, Mahatma Gandhi, and Nelson Mandela? Such "open" utopias are quite different from those which confine the community within a logic that denies individual expression and tends to crush it.

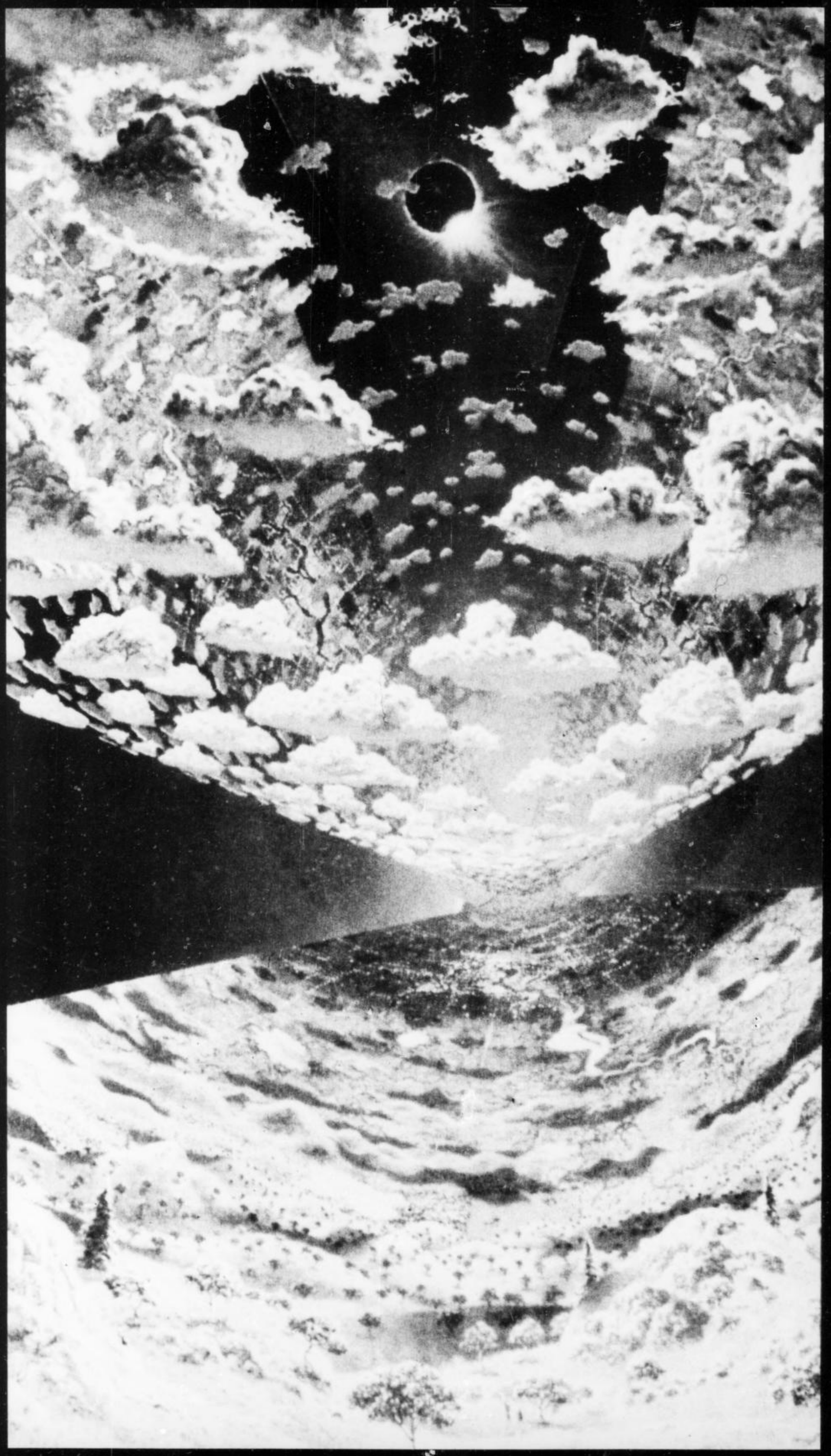
This sense of vision in utopianism should be regarded as a liberating, dynamic force for immediate, universal action, an encouragement to bold thinking. In the words of Bernard Lown, president of International Physicians for the Prevention of Nuclear War, which was awarded the Nobel Peace Prize in 1985, "Only those who can see the invisible can do the impossible". To increase in this way the power of the imagination and strengthen the human desire to go ever further, is to equip mankind to face reality and respond to the unexpected.

Can utopia be a guarantee of freedom? No final answer has yet been given to this question. But it is a question that is worth asking.

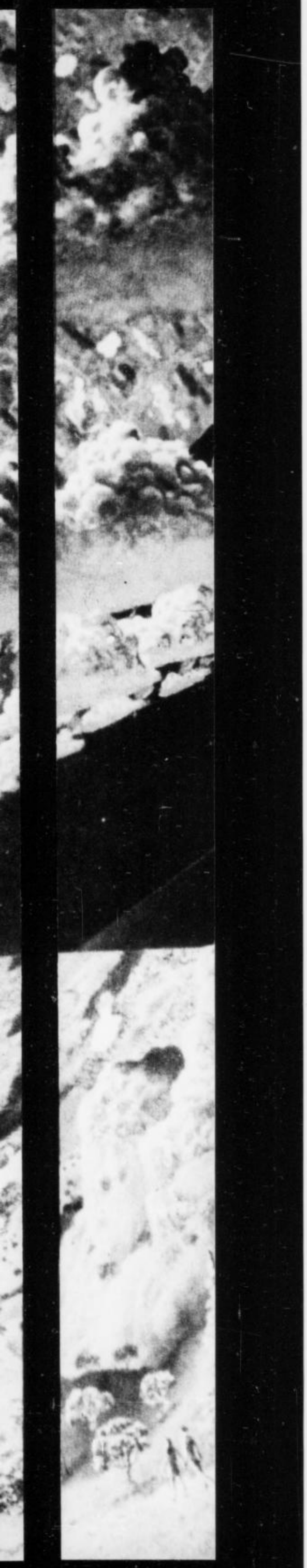
Detail from a painting by the Venezuelan artist Pancho Quilici.

A CONTROVERSIAL IDEA

The concept of utopia, an imaginary ideal society, has been a fertile source of controversy. For some it has been a beacon of hope for the future. Others regard utopian thinking as anathema, and see utopians, however well-intentioned, as the unwitting accomplices of totalitarianism. A third school of thought believes that while utopia can never be a practical proposition, it can stimulate a fruitful quest for knowledge.



Right, depiction of a 21st-century space colony by the American painter Don Davis (1975).
Opposite page, anonymous engraving for a 1518 edition of Thomas More's *Utopia*.



DO WE NEED UTOPIA?

BY FERNANDO AINSA

TAKING its name from the fictional land depicted in Sir Thomas More's book of 1516, utopia has become a generic term for all imaginary worlds in which a society radically different from our own exists—one that is normally in every respect superior to the real world. It is a notion that is currently out of fashion, for nowadays utopian thought is suspect for its supposedly totalitarian tendencies.

Recent years have seen the collapse of more than one would-be real-life utopia, and the dream of an ideal society—long considered essential for the fulfilment of human potential—has for many people turned into a nightmare. Even the way the word is now used in everyday speech reflects its current discredit. It has become synonymous with pipe-dreams, unrealistic ambitions, and airy-fairy ideas. For many people, the utopian vision has finally been laid to rest.

Such a view may be premature. Contemporary historical, political and philosophical thought has not entirely lost its utopian dimension. Although utopianism has been condemned for the ideological wrong turnings it has encouraged, perhaps it remains indispensable if we are to conceive of alternative models of the future.

It is often wrongly thought that utopianism is a form of literary escapism. Its practitioners have usually been deeply involved with the political, social and economic concerns of their day. The aim of most utopian works has been to make people reflect critically about their time. The ideal societies they have depicted have always been related in some way to the values of the world around them.

Thomas More himself was a humanist, diplomat and politician who rose to be lord chancellor of England. The marvellous island he described in his *Utopia* housed an ideal society that served to contrast with descriptions of an existing England sapped by poverty, taxation and rapacity. More was to pay for his audacity with his head.

Similarly, the Italian author Tommaso Campanella, writing from prison, proposed the ideal community of his *City of the Sun* (1602) as an alternative to the injustices of the contemporary world; in fact he even sought help to turn his ideas into reality. James Harrington's *Oceana*, published in 1656, was a challenge to the England of Oliver Cromwell, while the philosopher and statesman Francis Bacon, in his *New Atlantis* of 1627, drew up a programme of political action for an enlightened monarch.

History may have inspired these imaginary worlds, but some utopias have in their turn affected history. Writing in the first shock of the European encounter with America, Thomas More thought that things no longer possible in

The utopian community imagined by Rabelais in the 16th century is shown in this engraving by the French illustrator Albert Robida (1848-1926).

the Old World could perhaps be brought to fruition in the New. In fact there were several attempts to put his ideas into practice in sixteenth-century Latin America, from the communes of farmers and craftsmen established at Michoacán in Mexico by Bishop Vasco de Quiroga to the ideal world of Verapaz—literally, "True Peace"—that Bartolomé de las Casas sought to create at Chiapas.

In the succeeding centuries, the missions and Indian settlements—the so-called "Reductions"—set up by the Jesuits over a vast area of Brazil, Argentina and Paraguay drew the inspiration for their theocratic regimes from both Campanella and Plato. In the nineteenth century, various attempts to set up utopian socialist communities were made in England, France, the United States and Latin America.

Criticizing the present to change the future

Every project for an ideal society is an attempt to invent the future. That is what distinguishes utopianism from ideology. As Karl Mannheim, the author of *Ideology and Utopia* (1929), put it, utopias bear a message of hope in the sense that they signify that change is possible. Whilst ideology is a vehicle for the world view of people in power, utopias are by their very nature subversive; they oppose existing authority and challenge the view of reality that it imposes.

Some authors consider poor living conditions, and the protests they inspire, to be the utopians' greatest ally. For E.M. Cioran, author of *Utopia and History* (1960) and an acerbic critic of modern values and of Western civilization, "The wild thoughts of the indigent set things moving....; a crowd of hotheads want another world, and they want it now. These are the people that inspire utopias, and it is for them that they are written." Utopian thinking turns to its own purposes the ancient myth of the Land of Plenty, and assimilates all the Lands of Cockayne in which the hungry peasants of the Middle Ages dreamed of filling their bellies without effort.

Utopianism has in fact often provided an inspiration for social progress. Many recent improvements in living conditions were long considered utopian fantasies. Whether with regard to working hours, sexual equality, welfare policies, leisure, alternative energy sources, environmental protection or town planning, More, Campanella, Bacon and others can now be seen as prophets whose dreams have in some cases become reality.

By no means all of the realized visions, however, have been constructive. In the course of the present century some have come to fruition in ways that have inspired anxiety and even terror.

Numerous works have described the increasing mechanization of modern life, the growth of bureaucracy, the depersonalization of the individual and the increasingly intrusive powers of the state, and have denounced their alienating effects and the assaults on liberty they represent. Such books normally exaggerate their

FERNANDO AINSA,
Uruguayan writer, is a Unesco staff member. He is the author of many essays and novels including *Los buscadores de la utopia* (Monte Avila, Caracas, 1977), *Identidad cultural de Iberoamérica en su narrativa* (Gredos, Madrid, 1986), and *Necesidad de la utopia* (Nordan Comunidad, Buenos Aires/Montevideo, 1990).

critique of present-day conditions to the point of caricature by projecting them into the future: a future which, unlike that of traditional, idealist utopias, is the stuff of nightmare.

The classics of this pessimistic school include Yevgeny Zamyatin's *We,* published in 1924, Aldous Huxley's 1946 masterwork *Brave New World,* George Orwell's *1984* (which first appeared in 1949), and Ray Bradbury's *Fahrenheit 451,* which came out five years later. In these works, the benevolent monarch of classic utopian fiction gives way to the tyrant who sweeps aside human rights in the name of order and state security, violates the human conscience and denies either privacy or individuality to his victims.

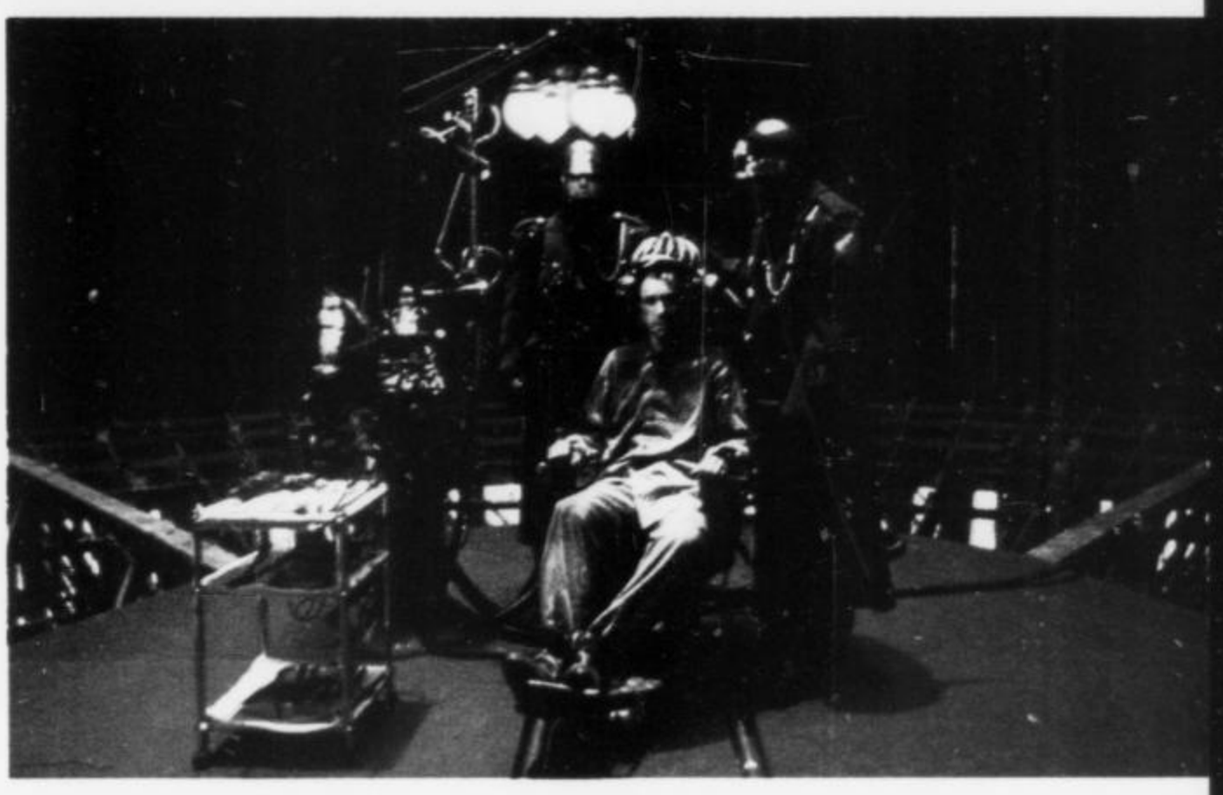
Analysing the way in which totalitarian systems impose a supposedly rational social order by means of state violence, the philosopher Karl Popper came to wonder whether totalitarianism is not inherent in the utopian vision. In the name of rationalism and idealism, those who dream of perfect societies, he claimed, always became dogmatists once in power.

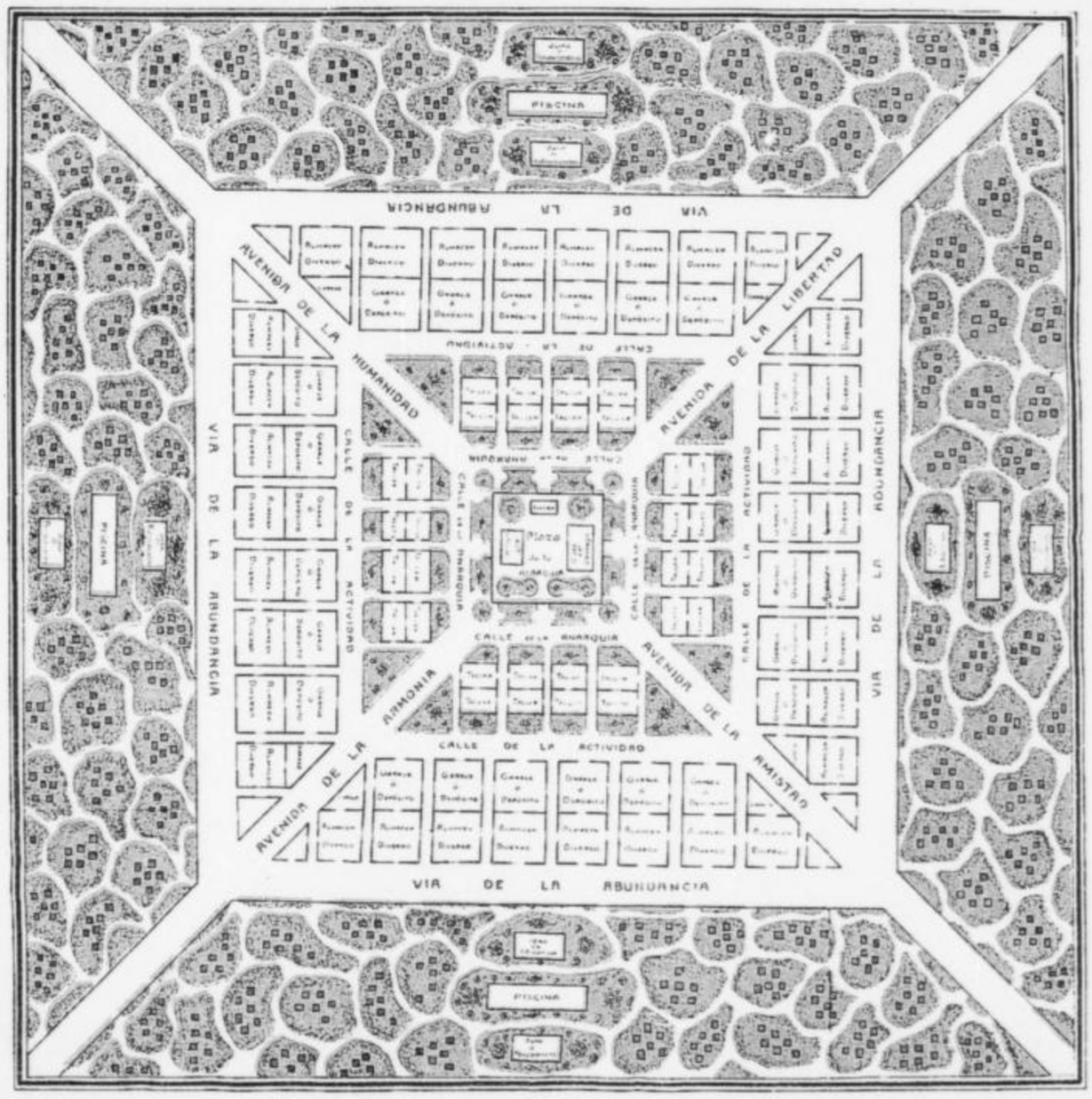
The Russian thinker Nicholas Berdyaev (1874-1948) presented the idea in a different way. For him, the twentieth century has proved utopias to be more attainable than anyone had imagined. He saw the totalitarian results in the many would-be ideal societies around him. That insight led him to a bitter question: How can we be spared utopia?

The fascination of the impossible

The odd thing is that those views of the future that have historically had the greatest influence and that people have most often tried to turn into reality have not, as one might have expected, been the most realistic, and hence realisable, ones. Take the case of the author of *A New World of Love,* Charles Fourier, whose radically original ideas have had great significance for two divergent groups of people, for totally different reasons.

Below, model of the "Matrimandir", the enormous sphere of meditation which is the focal point of Auroville (Tamil Nadu, India), an international cultural community inspired by the work and ideals of the Indian mystic and philosopher Sri Aurobindo (1872-1950). Auroville was founded in 1968 with Unesco support. Below right, a scene from *Brazil* (1984), a film directed by Terry Gilliam. Bottom, plan of "Las Delicias", the capital of an ideal country described by the French-born Argentine writer Pierre Quiroule in his book *La ciudad anarquista americana* ("The American Anarchist City"), published in Buenos Aires in 1914.





On the one hand, disciples who took his message at face value set up communes faithful to his ideas in Argentina, the United States, Brazil and Mexico. On the other, the surrealists who were fascinated by the visionary and subversive aspects of Fourierism—precisely because they considered them to be unrealisable.

Whether or not it is confronted by the test of reality or has the fascination of the impossible, the vision of utopia seems to be one of the motors of human history. Ultimately it is the measure of the hope that drives humankind forward. Although Cioran is generally hostile to social idealism, even he recognizes that utopias are part of the quest for human happiness. However, he attacks the very concept of happiness, which he holds responsible for many of the great tragedies of history. Products of history, most utopias in his view degenerate into tyranny and servitude.

Other writers would be less willing to dismiss the quest for a perfect society as merely a catalogue of forlorn hopes. For the Italian essayist Ignazio Silone, a world without a utopian dimension would be claustrophobic and suffocating, and would end in a stagnation worse than madness. The American theologian Paul Tillich was even more emphatic: "Without utopias to open

up possibilities, the present is sterile and stagnant.... Without utopias, a culture... rapidly falls back into the past. The present is only fully alive in the tensions between the past and the future."

On the other hand, a modern social theorist, Ernst Bloch, draws attention to the risks of "automatic optimism" and a "blind and limited faith in the future". He prefers realistic pessimism to false optimism. In his view, social utopias need not lead to alienation. They can be realistic and liberating, just so long as they represent a clearly-held position free of all adventurism.

Ideal and nightmare worlds

The alternative societies that utopian literature has sketched out are much more varied than might be suggested by the everyday use of the word, which is now loosely taken to describe anything from anarchy to tyranny or liberty to dictatorship, and can be applied to either ideal or nightmare worlds. Basically, though, they can be divided into two categories. On the one hand are those that stress order, with Campanella as their original inspiration; on the other are those inspired by liberty, which trace their descent to the work of Thomas More.

The first kind depicts ideal states; their imagined worlds are institutional and collective, not to say totalitarian. The second—drawing on popular and revolutionary traditions—describes the best imaginable ways of being. Fear of seeing the totalitarian utopias turn into reality can easily blind us to the liberating potential of the other variety.

"Do what you will" was the motto of the Abbey of Thelema, the paradise of pleasure Rabelais depicted in *Gargantua and Pantagruel.* It could serve as a rallying-cry for all the libertarian utopias, from the Renaissance through the socialist model societies of the nineteenth century to the alternative communities of the present day, giving them their "light of dream and passion", in the phrase of William Morris, author of *News from Nowhere* (1890). This sense of wonder shines like a flame in every work in which the aspiration towards liberty struggles to overcome all the rational obstacles that confront it.

For libertarian utopians, the task is to restore humanity to the fullness of its nature. In Morelly's *Basiliade* of 1753, everything that stands in the way of individual liberty is abolished: property, politics, marriage, privilege and law all go, and humanity is finally free to live in harmony with nature. A similar quest for total liberation reappears today in the work of the American fantasy writer Ursula Le Guin, particularly in her novel *The Dispossessed* (1974). The utopia it depicts arouses both hope and terror, neatly encapsulating the current uncertainty the concept provokes.

Maybe it is time to overcome our ambivalence, and to look beyond the real-life experience of social engineering that has thrown the whole idea of ideal worlds into disrepute. In so doing, it might be possible to recapture the liberating vitality and dynamism of the original utopian dream. ■

THE FIASCO OF PARADISE

BY GILLES LAPOUGE

SOME people think that when God drove Adam and Eve out of the Garden of Eden He was warning utopians that the ideal society is not something for this world but for the next.

Certainly the fiasco of Paradise, had human beings only learnt a lesson from it, could have saved us from many disappointments. We should never have had to put up with those radiant

societies that lapse inevitably into despotism, mania, torture and genocide, or with those communities which promise to deliver the world from evil and actually do the opposite.

The Bible's advice unfortunately fell on deaf ears. For as long as people have been capable of thought, utopians have peered into their crystal balls, scribbled down grandiose schemes, and sketched out never-never lands.

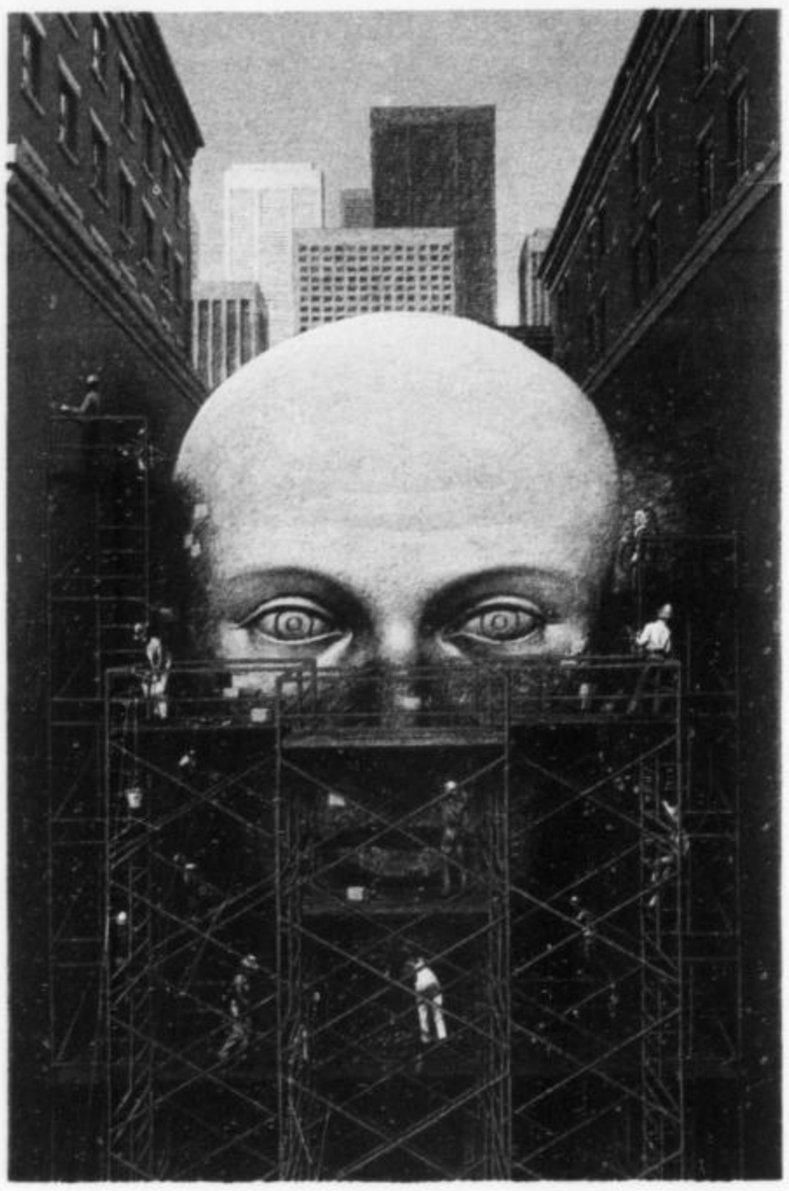
They told themselves that the Garden of Eden was pleasant, and full of good intentions, but a bit sloppy, very muddled, and perhaps (of all things) even anarchic. So they produced more modern, more cruel, and better-organized models of Paradise. Utopians are suspicious of everybody. They are disciplinarians who like their cities to be correctly laid out, prefer calculation to love, evict tramps and dreamers, execute deviants, and do away with the family, individual destiny and Old Father Time.

So they produce assembly-line people, aseptic and uniform. They put their charming societies into straitjackets and clap freedom in irons. They do away with controversy and destroy the pathogens of evil. Too bad if people die, or live in slavery. Utopian skies, which should be blue, are actually black.

***Expulsion from the Garden of Eden,* oil on canvas by the American Romantic landscape painter Thomas Cole (1801-1848).**

Hippodamus and Plato: the demon of geometry

Five centuries before Christ, Hippodamus of Miletus lived in Ionia, a blessed land on the Aegean coast of Asia Minor which brought the Greek genius to its apogee. There, between sea and sky, an elegant civilization blossomed, carefree and gay. Unfortunately from the other side of the Taurus Mountains the armies of Darius, King of Persia, cast covetous eyes on the smiling coast. The Ionians led a revolt, and set



Left, oil on canvas by the American artist John Martin. Below, illustration from a 15th-century edition of *The City of God* by Saint Augustine (354-430).

fire to Sardis. Darius flew into a rage and unleashed his troops on Ionia; and in 494 BC the town of Miletus, between Halicarnassus and Ephesus, was stormed and sacked.

Hippodamus the architect was very pleased. Here was a chance in a million to build a city from scratch, rather as Oscar Niemeyer in the twentieth century would build Brasília on a site untrammelled with any historical associations. "Hippodamus," says Aristotle in his *Politics,* "invented the geometric grid plan for towns. He designed a city of 10,000 inhabitants sub-divided into three categories, craftsmen, farmers and militiamen."

Let us remember the grid plan, a design that marks Hippodamus out as the earliest known utopian. The Milesian architect wished to confine nature within straight lines and virtually abolish it, forging a mould that would produce a clean, tidy, egalitarian, public-spirited, rational society.

Plato went further than Hippodamus. In the *Laws* he describes a blissfully happy society, and in the *Republic* he explains how it works.

The city centre is dominated by an acropolis, from which twelve spokes radiate so as to divide the city into twelve sections. The streets are straight, the squares circular, and all the houses alike. This is a far cry from Athens, the real Athens, which is a network of delightful, dirty, winding streets. The city in the *Laws,* like Hippodamus's, is geometrical: it is a beehive, the cells of which are occupied by people. There are few amusements—music and dancing—and all innovations are prohibited. Poets—dirty, unpredictable dreamers—are banished. People eat in canteens. Statistics are impeccably kept: in the city of the *Laws* there are no individuals, only citizens. Idlers, dreamers, tramps and bachelors are outlawed.

This mathematical city works like a computer, without mistakes or breakdowns. The idea is to cram the soul into the pattern of the city and the city into the pattern of the *cosmos* ("the well-organized"). Plato wants to protect society from the disastrous whims of "sublunar nature" and the bloody horrors of history.

Plato's society was divided into three layers: at the top were the philosophers, who kept the state together and took the decisions. (Being immune from unexpected circumstances and the caprices of history, the ideal city should have no need of a strong government. In the more extreme utopias that came later, government withers away: the city alters itself, unfailingly reproducing the same movements. The *cosmos* needs no rudder; it spins of its own accord, and never goes off the rails.)

Plato, however, kept a government. The philosophers who constituted it were assisted by guardians or watchdogs, who needed to be both "irascible and also philosophical". They in turn were in charge of the third category, viz. the

Roman mosaic depicting Plato teaching his followers.

workers and peasants. The guardians were fierce because the workers were uneducated people with "covetous souls" who only did stupid things. These mindless people even allowed themselves the luxury of having instincts and feelings, loving their neighbours' wives, adoring their children and grieving when their mothers died—in short, of harbouring a multitude of germs which Plato, the skilled physician, set out to kill. Plato was an obsessional disinfecter: he wanted an open society of passionless citizens devoid of memory and imagination—a dreary collection of "people without attributes".

The abolition of the family

The philosophers who govern the city in Plato's *Laws* are indefatigable. They are on the lookout for trouble night and day. They strike at the first hint that any feeling, desire or softness is creeping into the crystal city. Everything "organic" is to be organized out of existence.

Hence the family is one of their favourite targets. For utopians the family spells disaster, trauma and calamity, for it contains within itself the seeds of everything primitive, dark, instinctive and "organic". The state could of course negotiate with the family, or put it in a straitjacket. Many despotic states did this later on but they all came to grief on the rock of the family. More shrewdly, Plato opted for a radical solution: realizing that the family would always be an obstacle to a dictatorial state, he abolished it.

Children are taken from the bosoms of their families and returned to the state. No more mothers, fathers, sisters or cousins—and good riddance! The family expands to the size of the city, and is thus dissolved.

Destroying the family in this way is both logical and insane. Logical, because a mathematical society cannot tolerate the untidiness of the family, its warmth and intimacy, its demands, and its murky depths. Insane because the family is intractable. It resists and will always resist attacks on it from the state.

It may seem odd that mammals are not good at setting up rational societies. Even beavers are anarchists, rogues and eccentrics by comparison with ants or bees. Mammals are politically inept because the family—a husband's link with his wife, a mother's with her children—stands up to all acts of violence by the state.

This is where social insects excel. In beehives and anthills the young are taken over by the state,

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so there can be no bond of affection or sentiment between parents and their offspring. Heedless of the passage of time, immobile and submissive, contemptuous of individual liberties, blindly obeying pre-programmed instructions, an anthill fulfils the irrational dream of absolute reason. The mistake made by Plato and all the utopians who followed in his footsteps was to suppose that man is a political animal. He is not, but ants are. Plato was a philosopher for bees and termites.

The *diktat* of the clock

Plato's designs were never implemented. The philosopher's advice was rejected by Dionysius the Elder, the tyrant of Syracuse—himself no sentimentalist. Nevertheless the philosophical exercise initiated by Plato was to beget many offspring, including Thomas More, Etienne Cabet and Robert Owen.

Even in Antiquity other thinkers constructed ideal cities. The Stoic Iambulus has left us a description of seven "happy isles", but they are not attractive. Anyone stranded on one of these islands would have wanted only to get away. The islanders were divided into groups of 400. Procreation and education were state-controlled, with the aim of making all the children physically equal. The citizens were all alike and could not be told apart. Intellectual and mental equality was engineered by means of monotonous working shifts continually repeated.

Historians of utopia tend to neglect the Middle Ages, which is not right, for that obscure period produced two very important utopian features, convents and clocks.

Convents, abbeys and monasteries were oases of peace and quiet in a stormy world, harmonious settled communities that would have delighted Plato. There were no families, nor even individuals. Monks and nuns did not even use their own names. The rule of St. Benedict was so strict and all-embracing that abbots and mothers superior had nothing to supervise but stillness and the meticulous, contented repetition of the same rituals. This was a glowing success—one of the few successes of utopia. But it becomes less impressive when one realizes that the splendours of monastic architecture belong to eternity rather than history.

Clocks came into being, by chance, in a convent, that is in a utopian environment. The mechanism of this magnificent invention—unchanging, inhuman and implacable, incapable of error, free from whims or inconsistencies, and immune from the constraints of history, is reminiscent of a perfect society. It is because they are timeless that clocks can show the time.

Plato's utopia was based on a model, the cosmos, and drew its inspiration secretly from another model, the anthill. Post-Renaissance utopians in their dozens used another model to feed their rational hallucinations: the watch. ■

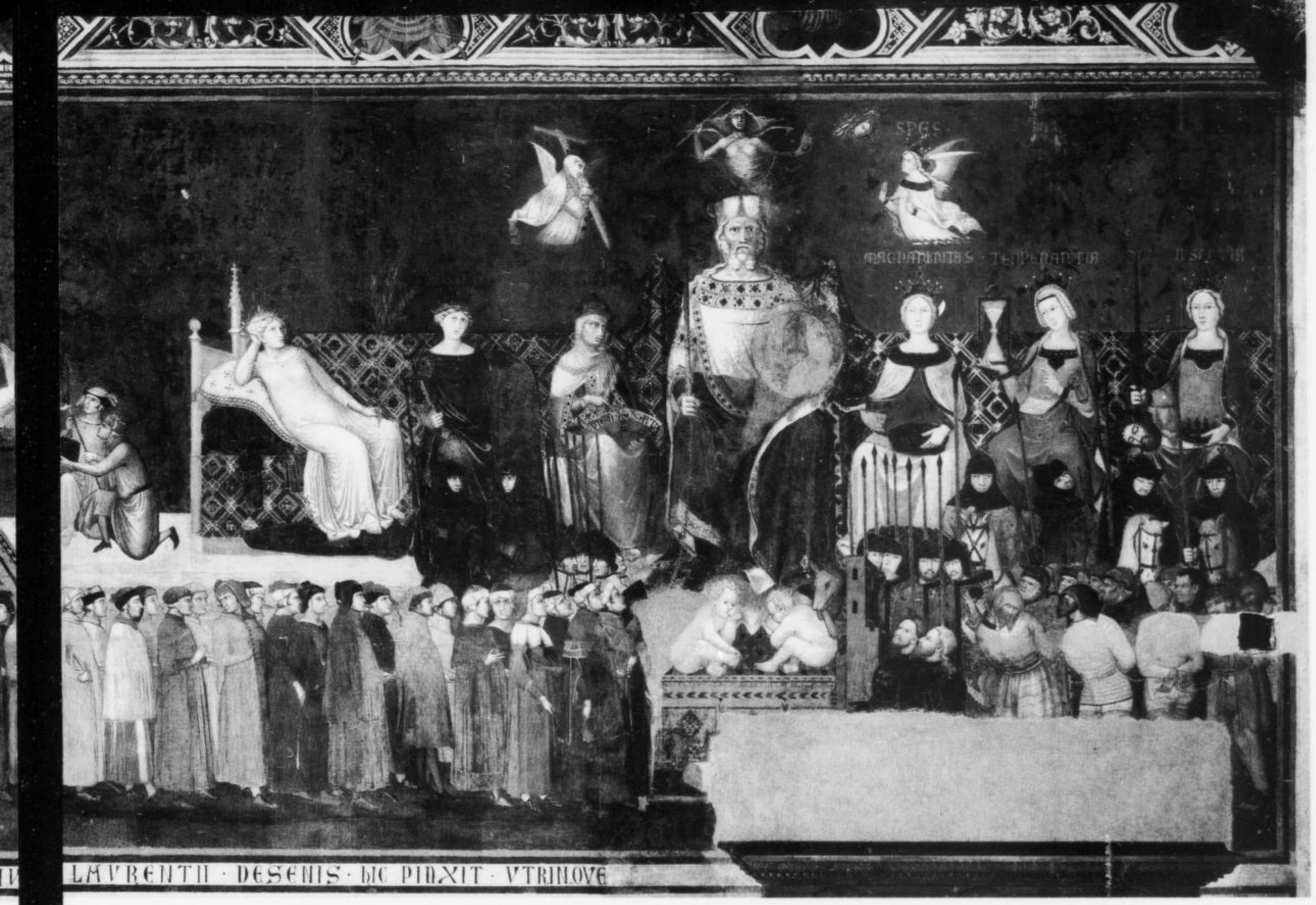
A PLATONIC PARABLE

BY ALAIN FRONTIER

At the beginning of Plato's *Republic,* Thrasymachus, one of Socrates' questioners, flies into a towering rage. Socrates, he says, is making fools of them all as usual. He is pretending to be a simpleton, saying nothing clear, letting others do the talking for him, taking pleasure in seeing them get mixed up in their own contradictions.

The irony of Socrates, and through him the irony of Plato whose mouthpiece he is, is not gratuitous. He wants to *destabilize* certainties before pursuing the only inquiry that matters: what is justice? Thrasymachus's answer is clear. It is the established sovereign power that decides what is justice. Thrasymachus decides to stick to the reality of things. What interests Socrates is not the real but the true. And to explore the true he proposes the path of utopia.

Let us observe, says Socrates, through the word, the *logos*—he insists on this verbal dimension—a city that is in the process of being constituted. Why a city? Because a city is bigger



Panel from a series of allegorical frescoes on "Good and Bad Government" (1337-1339), painted by the Italian artist Ambrogio Lorenzetti for the Palazzo Pubblico, Siena.

than an individual and thus easier to observe. By seeing how men will live in it, we shall perhaps have occasion to see justice and injustice constitute themselves there at the same time.

This city does not exist, it is a fiction. But it is not entirely a lie since it is subjected to the moral requirement that is love of truth. By pushing it to its conclusion is there not a chance of coming close to a reply?

Let's act as if it were a myth, says Socrates, even though we know that it isn't one. There's no pretence in this fiction. Nor any nostalgia: the verbs are not in the past tense. With its future indicative, utopia offers itself as a pure project, we don't even need to dream about its execution. It is not the exposition of an ideological programme! Utopia does not present already acquired ideas of which one can be sure. "I don't know," Socrates says. "I don't know yet. We must continue. We must go where the logos takes us as the wind blows a boat." Utopia is like a slow voyage which takes its time.

And yet what difficulties, what risks! announces Socrates to those of his listeners who wish to accompany him on this fictitious adventure. Utopia will meet with *incredulity,* it will be taken for the ramblings of a dreamer. Even worse. What I fear, says Socrates, is not so much making people laugh as travestying the truth. I would move forward more boldly if I were sure of knowing. But I doubt and I seek. Perhaps it is necessary, he adds, to bring a certain proportion to our utopia, to impose certain limits on it. No, replies Glaucon, another participant in the discussion, we must go on, even if it takes the whole of life.

Utopia. Has anyone ever noticed the strange way in which Thomas More during the Renaissance created his neologism from the Greek? At first sight the word seems simple. Derived from the Greek word *topos* meaning "place" and the negative *ou,* "utopia" designates that which is found in "no place". But logically More should have used the privative form *a* which should be used in this situation (as in apolitical, etc.). Why did he not do so? Why did he not want to use the word "atopia"?

I think there are two reasons. First of all, the word *atopia* already existed in Greek to designate something extraordinary, new, strange, extravagant or absurd. This is not a definition of the utopia described by More (and after him Rabelais and others). Then, by beginning the word with a negative adverb ("not"), More deliberately emphasized that the place he describes does not exist anywhere, has never existed and will never exist. That it should not exist. Woe betide anyone who tried to *apply* to the real world what is only a figment of thought, a method of understanding and approaching the truth.

If Plato's city existed, it would be the worst of all cities. Is this a reason for burning his *Republic*? Banish the philosopher from our city? The world's problems come not from utopias but from those who were foolish enough to confuse them with programmes of political action. ■

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DREAMS AND REALITIES

History provides many examples of people who have attempted, with varying degrees of success, to realize the dream of utopia. Over 3,000 years ago the Pharaoh Akhenaton built a "city of the sun" on the banks of the Nile. In India in the third century BC the Emperor Asoka took inspiration from Buddhist egalitarian ideals. In the nineteenth century a crop of utopian communities blossomed in the United States. A prolific futuristic literature produced in Russian since Tsarist times has expressed the intuitions and torments of society. Some utopian thinkers, by imagining original solutions to the problems of the industrial age, have influenced, for better or worse, the way we live now.

AKHET-ATON, CITY OF THE SUN

BY AYYAM WASSEF

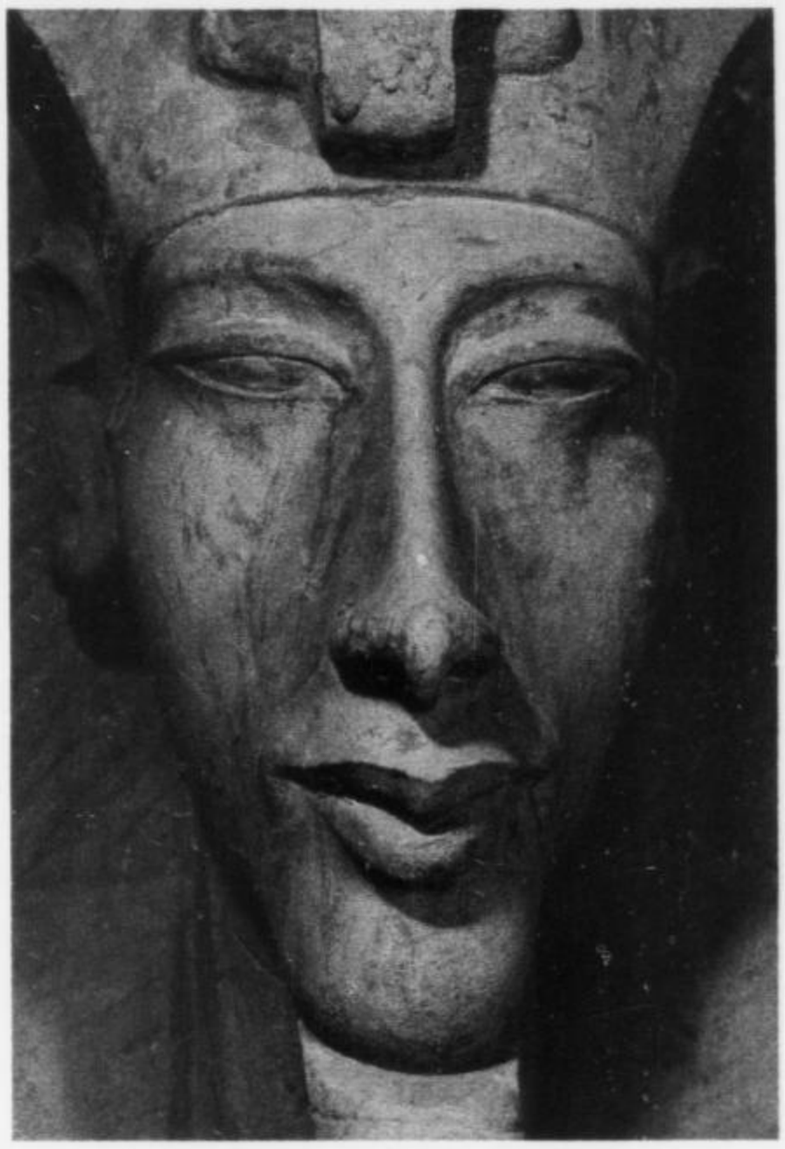
WHEN Plato sought to visualize the ideal state, the illusory hope of creating a republic founded on reason led him prudently to propose banishing poets. Utopia, it would seem, cannot tolerate in its ideal world the subversive force of the imagination—which is, ironically, the very element that gives it birth. Things change, however, when the utopian dreamer has the power to put his visions into effect through the fact that he is king—a real king, who as it happened in this case was also a poet.

Akhet-aton (literally, "city of the horizon") was a real-life utopia that lasted only as long as the heretical views of its creator, the Pharaoh Akhenaton. What is left of its twelve-year existence can be found in Middle Egypt, on the banks of the Nile at Tell el-Amarna. There are some palaces, a workers' residential quarter, a sculptors' workshop, several temples. These vestiges bear witness less to the town's existence than to the fact of its demolition. They are stone fragments of an interrupted poem, fixed forever in its moment of inception.

Until 1842 even the name of the city was forgotten, let alone its history. People had at best an inkling that somewhere midway between Egypt's ancient capital of Memphis and Thebes, the town that supplanted it, a city of gold-encrusted temples lay hidden, concealed both by the sands of the desert and by the still more corrosive dust of neglect.

It was not until 1912 that German Egyptologists discovered the painted bust of Nefertiti, now in the Berlin Museum, that was to become one of the most precious of Egyptian artworks and was by its luminous beauty to cast light on the strangest and least-known episode of the country's Pharaonic history. It immediately raised the question of who its subject might have been, for her name had been carefully removed from most of the records. It took fifty years' research to establish that the splendid, high-crowned queen had been the wife of Akhenaton, whose name had also been proscribed, featuring in none of the official lists of Egypt's rulers. In effect, the historians of ancient Egypt had deliberately expunged thirty years of their own history.

The extent of the conspiracy suggests just how significant the Amarna episode was for ancient Egyptians. The radical programme that Akhenaton introduced, inspired as much by poetry as by politics, was so profoundly unsettling that even now it appears an aberration fitting uneasily into any straightforward chronological account of Egyptian history, belonging instead, it would seem, in some hidden corner of the memory, on the threshold of a dream.



At this distance, Akhenaton's own personality is difficult to reconstruct. Some people see him as a tragic prefiguration of Christ, a precursor of monotheism, Moses before the letter. For others he is the heretical Pharaoh, the great stain on the history of his nation—and by extension on its geography, which through his creative endeavours he permanently marked with a small, enduring, sun-coloured spot.

For in an arid and burning place where the sun might have come up on the very first day of creation, Akhenaton decided to build a city that was to be the centre and focal point of his own new religion. In defiance of the powerful priesthood, he banned the cult of Amon, king of the gods, and established in its place the worship of Aton, the sun. The break came abruptly at the beginning of his reign, around the year 1362 BC. The king changed his royal title from Amenophis IV—the name meant "Amon is satisfied"—to Akhenaton, "he whom Aton loves", and left the royal city of Thebes to start work on the new capital. A hundred thousand technicians, engineers and workers were employed to build his metropolis, which was planned to hold an even larger number of inhabitants. Akhet-aton was to be a city of the sun, of art and love and joy. It was almost certainly the first urban centre to have been designed from scratch.

Ingenious means were found to bring the finest and most suitable materials to the site. To lighten the architecture, and so increase the contrast with the massive stone monuments of earlier reigns, wooden beams were used to support walls of mud-brick. A royal avenue bordered by the most expensive houses ran through the middle of the city. The houses of less privileged citizens occupied the adjoining district, and beyond lived

Left, Akhenaton, Nefertiti and their daughter worship Aton, the solar disc. Limestone bas-relief from Tell el-Amarna (Asyut province, Egypt). Above right, Akhenaton portrayed on a sandstone pillar statue from the Temple of Aton at Karnak (1370 BC).

The ruins of Akhet-aton, the capital city of the Pharaoh Akhenaton at Tell el-Amarna.

all the tribe of hopefuls who came to Akhet-aton in search of a new life. The great temple in the city's centre was formed of several courtyards leading to a sanctuary; the whole building was oriented to the rising sun and laid open to its sacred rays, for it had no roof. Thus the Pharaoh and his fellow-worshippers could commune directly with their god, bathed in a light made the more dazzling by the yellow colour omnipresent throughout the town.

The most impressive building of all, however, was the Northern Palace, built a short way outside the town for Nefertiti. It was a world in miniature. Set amid pools and gardens, a vast, square lake bordered by colonnades was surrounded by enclosures containing rare birds and beasts, a happy intrusion of nature into the daily human round.

We now have a fairly clear idea of the daily life of Akhet-aton: of its many banquets, its festivals in honour of the sun-god. But we still know little of its political activity. The world of affairs apparently took second place to the Pharaoh's aesthetic preoccupations.

Nevertheless, the fact that its god could be seen suggests that there must have been something of a revolution in people's perception of secular power. For in a city whose god is open to view, people live close to, and within the compass of, the divine. This new relationship between god and man lies at the heart of Akhenaton's revolution, and its significance can be summed up in a metaphor of looking. Aton the all-seeing is, as it were, the eye of the sun; and the sun itself is the eye of god, both seeing and seen. The old hidden god, Amon, saw everything without being observed, never revealing himself except through a glass darkly in the form of multifarious carved and graven images that served as scattered symbols of the divine presence among men. Maybe Akhenaton's heresy lay in wanting to break through such substitutions, to do away with this distance of symbols and instead to bask permanently in the godhead's shining light.

That is why his creation was utopian in the true sense of the word. From a poetic point of view, utopia implies the promise of finally achieving a true and exact apprehension of reality. The Amarnan aesthetic lends itself to a kind of exacerbated realism. Imitating the solar disc itself, which radiates outwards in countless individual rays, the artist's regard moves forth towards the object of its attention, the objective other that is also watching it. King Akhenaton is represented as he was, formless; a king whose reality lay in the regard of other people.

One glimpses here the germs of the incipient democratic sense that some people have discerned in Akhenaton's programme. Universally visible, dispensing light and life to all with equal bounty, the sun is the very emblem of a just monarch, indeed of utopia itself. But a king—even one who was also a poet—would find it hard to maintain such an exalted level in the day-to-day governance of any human community. Akhenaton's courage lay in not having presupposed failure, and thereby having for a short time blurred the boundary between what is desirable and what is possible. ■

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Egyptian essayist, is preparing a doctoral thesis at the University of Paris I on the theme of the individual in contemporary philosophy. Her publications include a study of the German-Jewish philosopher Martin Buber. She is currently writing an account of her experiences as an Egyptian living in Paris.

A GOLDEN AGE

BY ANANDA W.P. GURUGÉ

BUDDHIST texts speak of an ideal golden age in the distant past, when prevailing standards of moral propriety precluded the need for kings and government or even private property, boundary marks or fences. Then deceit and theft brought a gradual degradation and led to the need for all these institutions. A king, the Great Chosen One, was democratically elected. This, in a nutshell, is an explanation of how contemporary society and its institutions came into existence.

Buddhist writings contain no utopian remedy for a return to the lost golden age, but they do give plenty of advice about how to improve society, especially in the form of ethical principles. An ideal king must possess ten qualities: generosity, moral conduct, sacrifice, honesty, gentleness, asceticism, the capacity to refrain from anger, non-violence, forbearance and non-oppression.

A community should guarantee its stability by assembling for consultation in harmony, transacting its business in harmony, and dispersing in harmony. It should not introduce revolutionary laws or break away from established conventions. Elders should be honoured and obeyed. Women should be respected and safeguarded. Spiritual obligations should be performed and free access and facilities to saints and holy persons should be allowed.

An individual gained merit not only by performing religious observances but by rendering services to fellow-beings, such as providing them with roads and water, shady trees and rest-houses, medicine and food. The old and the very young were also to be protected.

Buddha did not confine himself to the promulgation of an ideal social order. He actually experimented with one. The community of Buddhist monks, the sangha, was an institution whose members observed monastic vows which enabled the Buddha's utopian social values and norms to be applied. Rules governing property ownership emphasized the egalitarian structure of the sangha. Every gift—and originally gifts were the only form of revenue as the members of the sangha did not engage in economic pursuits—was received collectively and held in perpetuity in the name of the sangha. No one had any private possessions. When a monk died or left the sangha, his personal effects reverted to collective ownership and were redistributed to others according to need.

Fortnightly meetings were held at which the members of the sangha confessed and atoned for any transgressions and collectively committed themselves to observe the rules of conduct—227 in the southern Buddhist tradition, 250 in the Chinese tradition.

Because of its elaborate procedures and the extremely demanding regulation of behaviour, the sangha was a social model which only the most highly motivated could adopt. Thus, although it continues to exist and thrive after more than twenty-five centuries (with some relaxation in its original rules), the sangha was never a model that could be applied to society at large. Nevertheless, many of its elements were emulated by later Hindu institutions such as the monastic communities founded by Sankara, and the Arya Samaj movement founded by Dayananda Sarasvati in 1875.

But above all, a practical application of Buddhist ethical principles can be seen in the extraordinary experiment carried out in the third century BC by the Emperor Asoka, who developed a humane socio-political system for the governance of his empire, the largest ever to exist in the Indian sub-continent.

Nearly 200 inscriptions have been discovered, which reveal Asoka's twofold strategy—on the one hand of seeking to convince people through admonition and on the other of issuing decrees and orders. Preferring the first course to the second, he used education to propagate his principles, appointed a cadre of officers who undertook regular tours of inspection, and inscribed edicts and instructions on rocks and stone pillars.

Asoka's socio-political system operated successfully for at least two decades. But his empire declined and was dismembered almost immediately after his demise. Was this because its foundations were utopian? This is a question which historians have yet to answer. ■

Lion capital from a pillar inscribed with an edict of the Emperor Asoka (3rd century BC). It was found at Sarnath (Uttar Pradesh), one of the holy places of Buddhism.

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THE AMERICAN LABORATORY

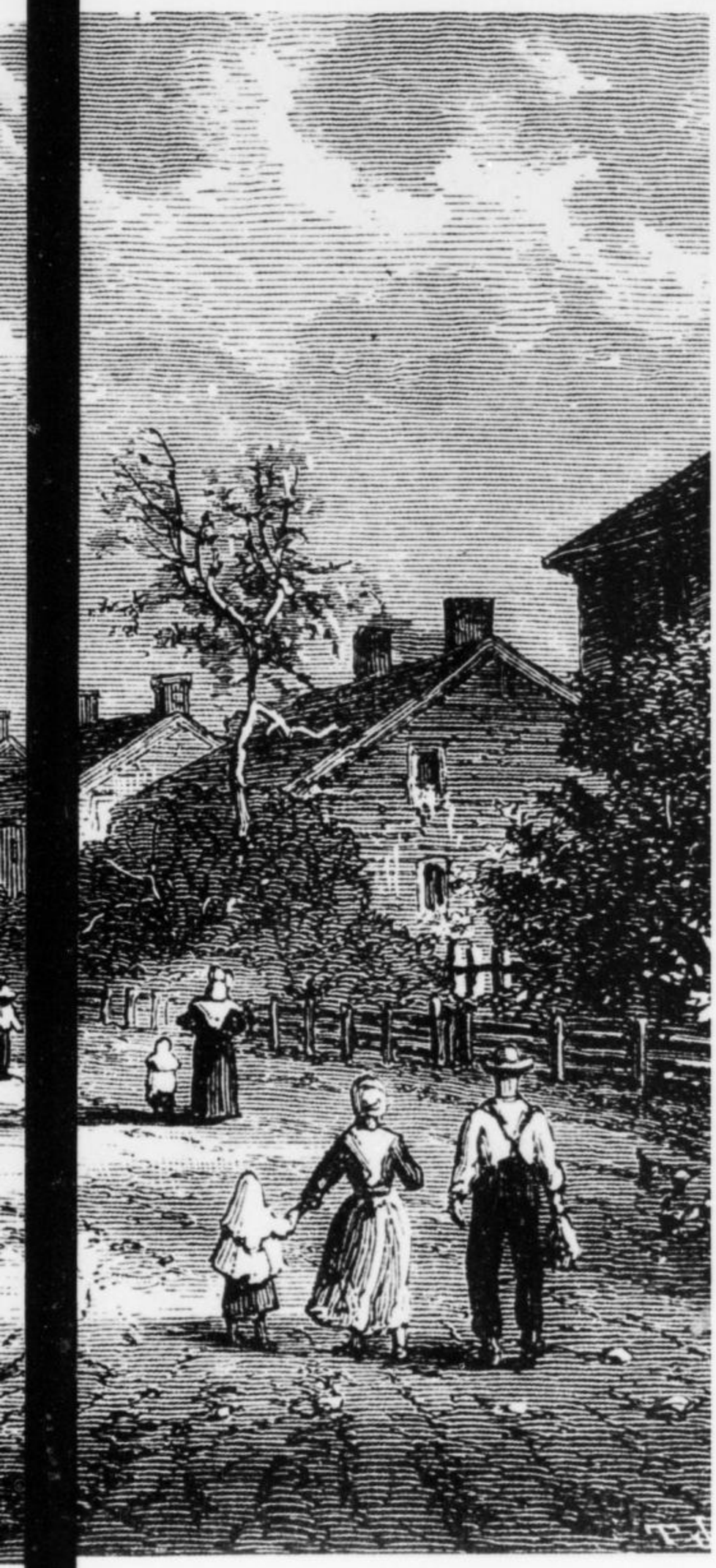
BY RONALD CREAGH

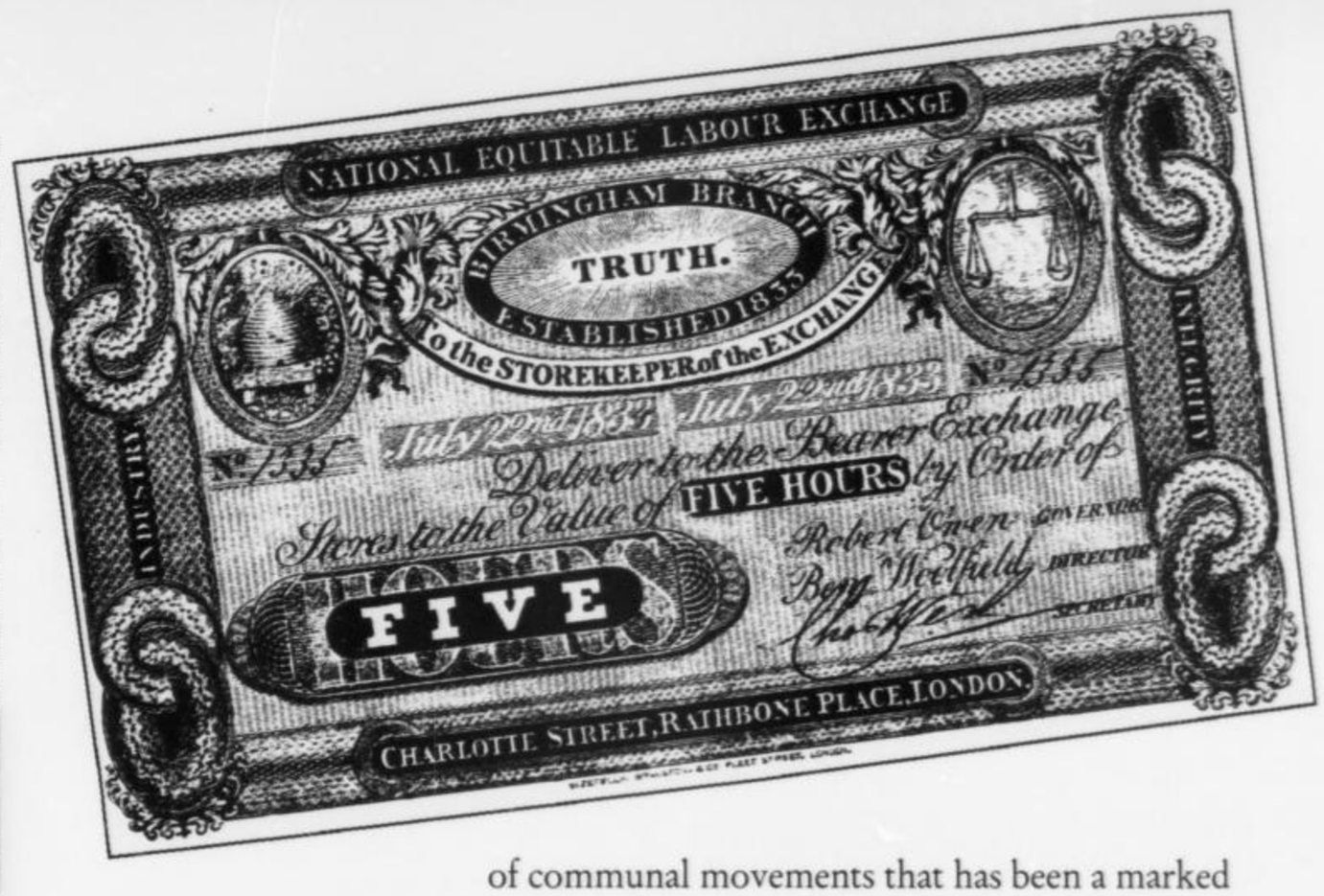
THE dream of a paradise on Earth is a persistent feature of the history of humanity. It has inspired countless utopian experiments in community living in different parts of the world.

These attempts to create an ideal society have aroused widespread scepticism and still do. Is there not a contradiction inherent in trying to bring to life the notion of a place which is by definition located "nowhere"?

The function of utopia has been to incite people to escape from history, to reject conventions and break away from the established order of things. Subversive by nature, the idea of utopia stretches the collective imagination beyond its limits. This subversiveness distinguishes utopian communities from those modelled on the dominant ideology of the society around them.

Perhaps more than any other country in the world, the United States has been the setting for a wide variety of experiments in community





Left, a village of the Amana society or Community of True Inspiration founded in Iowa (USA) in the mid-19th century. Above, a "Time Note", worth five hours' labour. This form of payment was introduced by the Welsh social reformer Robert Owen (1771-1858) for trade in the National Equitable Labour Exchanges which he set up in several English towns in 1832.

living. Both recent immigrants and long-time Americans have participated in these utopian associations, most often in rural areas but sometimes in towns and cities.

Utopianism and reality have been intertwined in America ever since colonial times. In the seventeenth century, William Penn founded a refuge from religious intolerance in "Pennsylvania", where he established a democratic form of government. Penn represents a kind of transition between English revolutionary thought and American religious communitarianism. Visions of an earthly paradise mingled with more prosaic motivations in the conquest of new frontiers.

Two main trends, one religious and one secular, can be distinguished in the rich history of communal movements that has been a marked feature of American history. The religious impulse led to the quest for a heavenly Jerusalem. Such groups as the Shakers (who have since disappeared), the Rappites and the Amish turned their backs on the exploitation of the masses by industry and rejected the worship of technology and its amenities. The quest for a perfect life here and now and the hope of establishing a Kingdom of God on Earth characterized the thinking of these groups in which myth and utopia were mingled.

The pathway to a new harmony

The second, parallel trend is not centred on the supernatural, although its adherents have sometimes used a religious vocabulary. These experiments in community living have been rationalistic, and specifically designed to bring about a political and economic regeneration.

A first crop of associations appeared during the period of westwards expansion and lasted until around 1860. Most of them had European leaders who, like the prophets of old, hoped to create a new people. The Welsh philanthropist, socialist and former factory-owner Robert Owen designed his New Harmony community in Indiana as a prototype for future humanity and a model for general application. Equally optimistic intentions were expressed by the German tailor Wilhelm Weitling and by the French and American disciples of Charles Fourier and Etienne Cabet.

A second flowering began almost a century later, in the late 1950s. For the most part these new associations claimed more modest aspirations than their predecessors. They sought to escape the constraints of city life, technocracy and the state, and to combat psychological, economic and political insecurity. These communities came in so many shapes, sizes and styles and were often so short-lived as to defy attempts at classification,

Above, the closing procession at a meeting of the Shakers, an American religious community which reached its peak in the mid-19th century. Left, Amish boys on their way to school on homemade scooters. Austerity and opposition to modern civilization are characteristics of the Amish, a religious group most of whose members live in Pennsylvania (USA).

but they included urban collectives, co-operatives, and communes.

Many of these projects were based on a rediscovery of subjectivity, of the individual's relationship with society, and of ecology. They were a breeding ground for activism against the Viet Nam war, the consumer society, environmental pollution, and the marginalization of women and homosexuals.

Between these two major explosions of vitality there was an intermediary phase in which socialist co-operatives and communities were created by immigrants and anarchists fleeing persecution in other countries. In these zones of freedom a radical tradition was upheld, and all forms of authoritarianism were rejected.

Modern Times

One of the most remarkable experiments of the anarchist and libertarian movement was "Modern Times", a community founded by Josiah Warren, the father of American anarchist individualism. An eccentric community that was the source of some scandal in its time, Modern Times was created in 1850, when Josiah Warren and his Fourierist disciple Stephen Paul Andrews bought a piece of land on Long Island, east of New York City on the site of what is now the town of Brentwood. Warren wanted to create a community close enough to a big city for it to survive economically until it reached the ideal population of 1,000 persons which would enable it to be self-sufficient.

The sandy soil, covered with tough, dense brushwood, was difficult to clear and required expensive fertilizer to cultivate. Sparks from the locomotive of the Long Island Railroad had caused more than one forest fire, and hardly any trees were left to provide protection from the wind. Only wild animals lived on this desolate tract of land.

Two years later, a community of neat little cottages had been built. The site was divided into forty-nine blocks by seven streets running from north to south and seven avenues running from east to west. The streets and avenues were wide enough to give all the dwellings good access to air and light. Land was sold at a fixed price to anyone who wished to buy. No one was allowed to purchase more than three plots.

Overlooking the private dwellings was a square two-storey building which housed a forge, a carpentry shop and a general store as well as apartments. The hard-working and strictly vegetarian inhabitants of Modern Times cleared the brush to create vegetable gardens, and planted pines to protect the town from the wind. In spite of disappointments and setbacks, they were soon producing enough fruit and vegetables to exchange among themselves and feed the community. Apple and cherry trees were planted along the main thoroughfares so that travellers passing

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through could eat the fruit rather than having to beg for food.

Newcomers to the community had to be able to provide for themselves and to follow a trade producing marketable goods, and so tailors, cobblers, smiths, carpenters and other craftsmen were invited to join. The community had its own currency—notes which engaged the bearer to pay others in hours of work. Bonuses were added for the harder types of work. These "Time Notes" were accepted in nearby villages, were unaffected by the 1857 currency devaluation and were even used to pay taxes. Due to all these factors, many people who joined the community with modest resources were soon able to purchase their own homes.

The right to be different

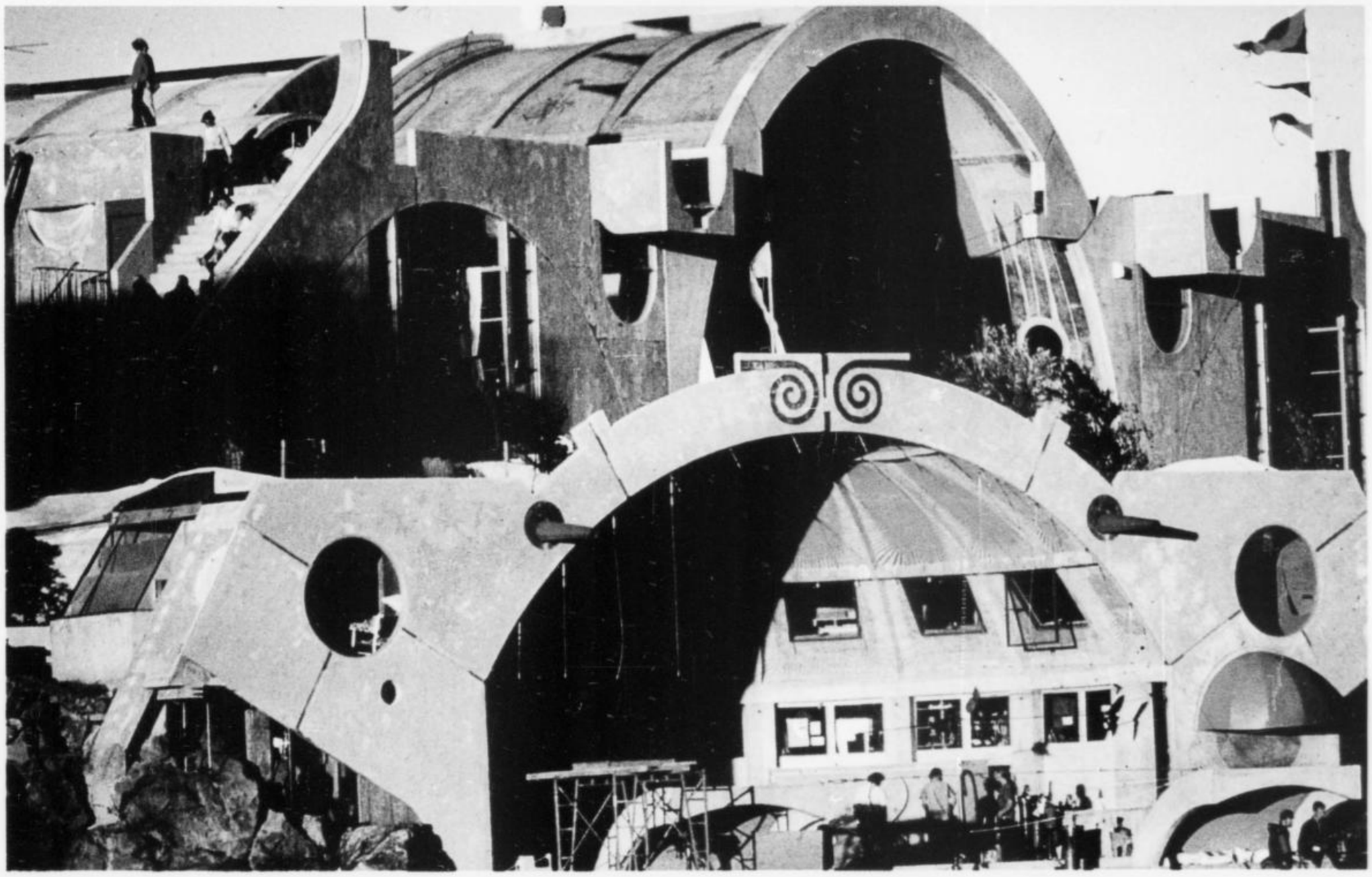
Individualism was the rule, but the group was interested in communal solutions to cost-cutting and labour-saving as long as they respected individual tastes and interests. Members of the community enjoyed complete freedom of opinion. Each woman was free to choose the father of her children, and a ribbon on a girl's finger indicated that she was "taken". Thus marriage was rarely legalized. This doctrine, which was based on Fourier's theory of the affinities of love, was responsible for the undeservedly scandalous reputation of Modern Times.

This original experiment encouraged creativity and innovation among the community's members. Two of them introduced stenography into the United States. One family developed safety belts to secure children in chairs and carriages. Clark Orvis, who later perfected the bicycle, invented an early form of self-service restaurant.

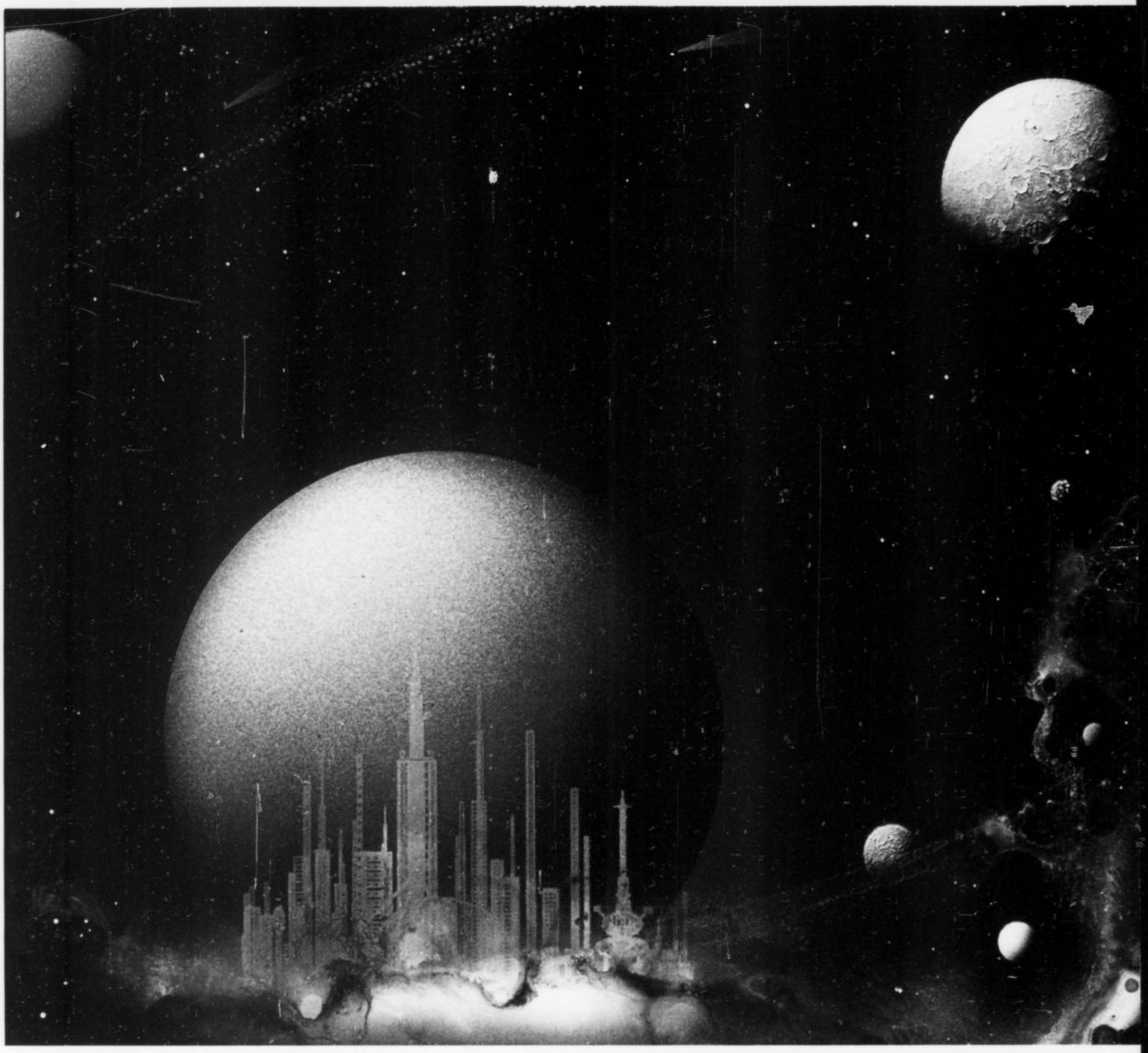
The community's fame spread as far as Russia, and the London-based leaders of the International Workers Association, including Karl Marx, took an interest in its activities. Cabet, Owen, Weitling, Auguste Comte and other well-known social reformers studied Warren's theories, as did the leaders of the American labour movement.

The story goes that during the Civil War the people of Modern Times sailed away to South America in a little ship with white wings, but this romantic story is only symbolically true. The increasing population in the area around Modern Times hastened the end of the experiment. Josiah Warren went to live in Boston. For him the time for experimentation was over. From then on he devoted himself to expounding his theories.

The Modern Times experiment is striking for its complete absence of dogmatism. The right to be different made it possible for people to live as they pleased and find fulfilment in their own inventiveness and intellectual and spiritual pursuits. It was an "open" utopia which through its image of serenity and love of life gave new impetus to the quest for freedom. ■



The futuristic city of Arcosanti in the Arizona desert (USA) is the brainchild of visionary architect Paolo Soleri. Construction began 20 years ago.



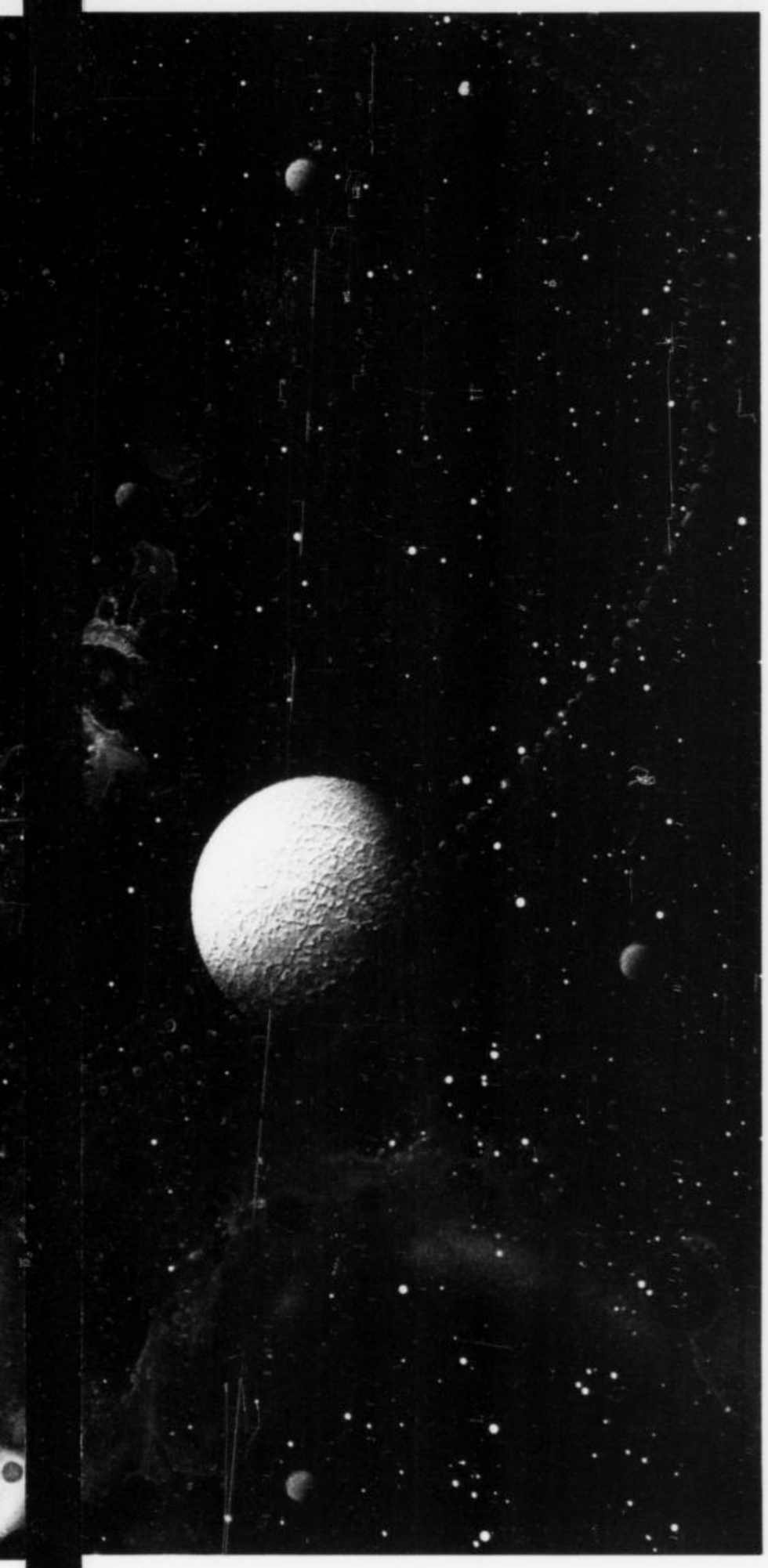
PARADISE IN 4338?

BY VSEVOLOD REVICH

UTOPIAN writers have often presented their message in the form of semi-political, semi-fantastic stories, and today the frontier between "pure" utopian writing and science fiction is very hard to define. Although Russian utopian literature has produced no world-famous books such as More's *Utopia* and Campanella's *City of the Sun,* it nevertheless provides instances of remarkable insight.

In the mid-eighteenth century, Russian fiction consisted almost entirely of utopian writings, which showed traces of the influence of the French Enlightenment. Whether the setting was an imaginary island or a real place like ancient Rome, utopianism was a form ideally suited to philosophical moralizing.

When describing his novel *Numa, or Flourishing Rome,* Mikhail Matveevich Kheraskov wrote as follows: "This story is not absolutely true historically. It is embellished with many fantasies which make it more beautiful without depreciating Numa's deeds." Numa's wise rule prompts the author to give a piece of sagacious if somewhat cautious advice to sovereigns which still seems relevant today. The true glory of a sovereign, he says, "is not always won with weapons...for the triumphant cries of the victors



are often accompanied by the lamentations of widows and orphans". Kheraskov sadly notes that his story will have hardly any impact, but "if there is no happy society on Earth let it at least exist in books and afford us the consolation that we too can be happy one day".

A pretext for political confrontation

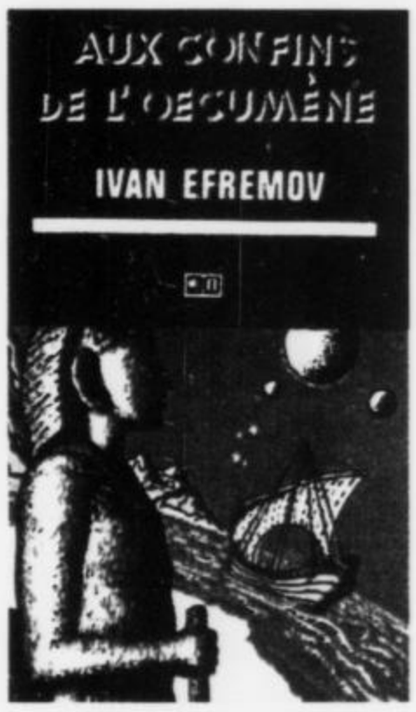
Many novels of this kind were written in late eighteenth-century Russia. The best-known was Alexander Radischev's *Journey from St. Petersburg to Moscow,* a denunciation of serfdom which contains a utopian account of how prosperous free farmers could be. At the other end of the political spectrum, Prince Mikhail Scherbatov's *A Journey to the Ofirian Land* vigorously opposed Peter the Great's reforms, described cities as a source of moral degradation and their buildings as "heaps of stones", and advocated a return to the patriarchal way of life.

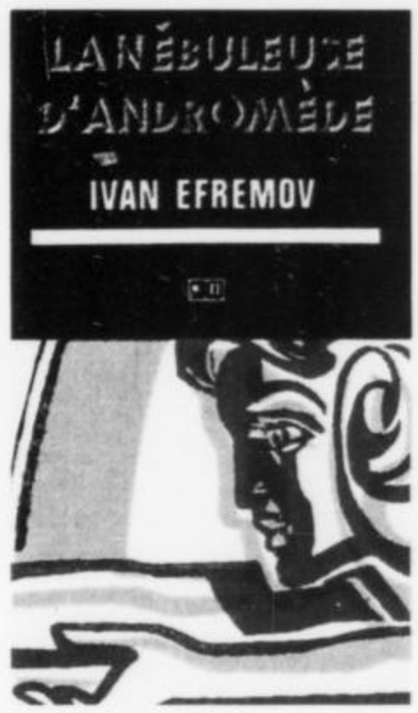
The 1825 Decembrist uprising against Tsarist autocracy left a mark on nineteenth-century Russian history and on philosophical dreams of Russia's destiny. The Decembrist Wilhelm Küchelbecker wrote *The Land of the Headless,* a satirical sketch in which the narrator lands on the Moon where he finds a social system which embodies the worst aspects of Russian life. Küchelbecker had discovered that utopias may have undesirable features, a new slant which gave rise to a flood of "anti-utopias" a century later.

The major Russian utopian work of the first half of the nineteenth century was an unfinished story by Vladimir Odoyevsky, *The Year 4338.* In 4338, according to Odoyevsky's calculations, the Earth should cross the path of a massive comet and possibly even collide with it. The plot centres on human efforts to avoid this disaster. In Odoyevsky's utopia, the Moon is uninhabited and serves as a source of supplies for the Earth, which is threatened by overpopulation. Electric vehicles are driven along underground tunnels. Siberia is heated by energy from volcanoes. Personal aircraft are used. Clothes are made of glass fibre. St. Petersburg has merged with Moscow, forming an immense megalopolis.

Odoyevsky makes the same mistake as many other writers about utopia. He talks about the general improvement of conditions, but devotes no attention whatever to the spiritual life of the people who live in these flourishing societies. Nikolai Chernyshevsky tried to avoid this error in "The Fourth Dream of Vera Pavlovna", a utopian chapter of his novel *What is to be Done?* In this socialist *Song of Solomon,* Chernyshevsky depicts the future as a Kingdom of Love—not puritan, abstract love, but earthly love which brings people the joy of life. Unlike Odoyevsky, with his preference for the city, Chernyshevsky believed that a healthy and happy life is only possible in a natural environment.

In contrast to these writers, Feodor Dostoyevsky in his *A Dream of a Funny Man* has no good word to say for socialism—or for what he calls socialism. Alas, it appears that Dostoyevsky was right on many points.

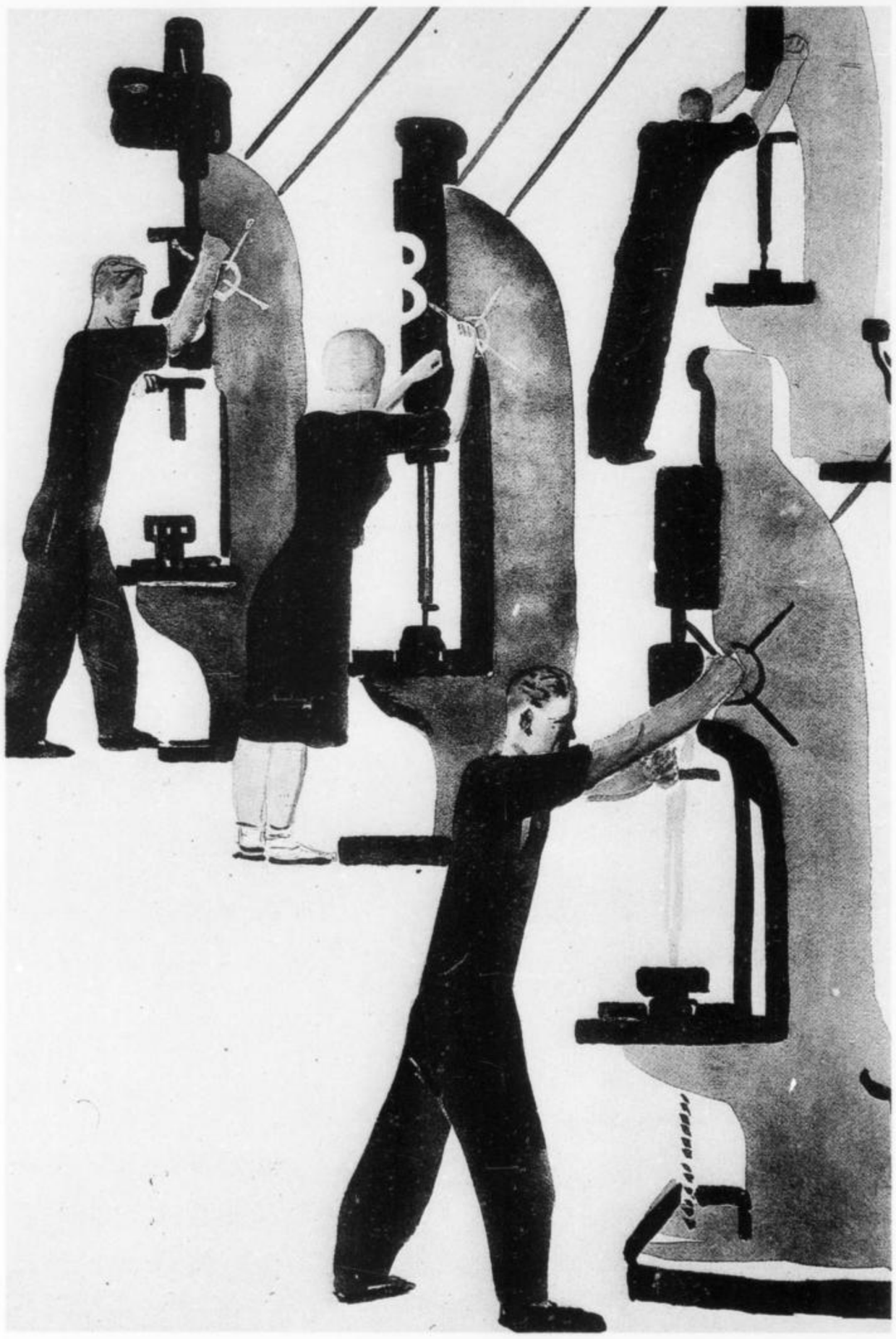




Above, the covers of French editions of two works by Ivan Efremov (1907-1972), a master of Soviet science fiction.

Perfect worlds, soulless worlds

Around the 1890s, Russian utopian thought started to become more diversified and original. One notable example of a new cosmic trend is Nikolai Fyodorov's *Philosophy of the Common Cause* (1906, 1913), a remarkable book in which Fyodorov imagines the resurrection of all the people who ever lived on Earth.



***At the Machine Tool*, by the Soviet painter, designer and sculptor Alexandre Deineka (1899-1969).**

Reactionary writers afraid of the changes that were impending in Russia laced their views with sober warnings which unfortunately were not heeded. The radical young were unable to find a rational message in treatises permeated with great-power chauvinism.

The characters in Nikolai Shelonsky's novel *The World of the Future* (1892) find themselves in the thirtieth century faced with a map on which Germany and Italy no longer exist. England and America have survived but in an "uncivilized state"—they are capitalist countries characterized by the pursuit of profit, extremes of wealth and poverty, and militarism. On the other hand, the alliance between Russia and France—based on the Orthodox faith—has enabled these countries to attain an extraordinarily high level of spiritual and social development. The book also contains many inklings of future developments—television, synthetic fabrics, the Channel Tunnel, and even anti-matter.

At the other political extreme, the most notable socialist fantasy of these years was *Red Star* by Alexander Bogdanov, an associate of Lenin until ideological differences drove them apart. The Red Star is Mars, which is inhabited by humanoids who are practically indistinguishable from human beings. The communist principle reigns supreme: from each according to his abilities, to each according to his needs. The Martians' basic need is to work, and they often change jobs to enjoy the pleasures of diversity. Economic stability is maintained by information-computing machines. Just imagine, computers in 1908!

Here again spiritual life leaves much to be desired. The Martians are polite and considerate, but incapable of emotion. The logic of expediency takes the place of inner motivation. In this atmosphere Sterney, a mathematician, works out a project to annihilate humankind and colonize the Earth. Whether intentionally or not, Bogdanov makes the prophetic statement that monstrous, inhuman projects can be generated by a rationally organized society if it does not rest on firm moral principles.

The end of an illusion

Andrei Platonov, artistic genius and prophet, realized much earlier and more clearly than his contemporaries that attempts to build a new society on servility or by decree were immoral and doomed to failure. Such enterprises can lead only to a common grave in which the builders of the society either lie down of their own free will *(The Foundation Pit)*, or are dispatched there by other means *(Chevengur)*. And if Mikhail Bulgakov went wrong in his grotesque play *Adam and Eve*, it was only in his supposition that a few people would survive the use of weapons of mass destruction.

The hero of Sigiezmund Krzhizhanovsky's story *Recollections of the Future*, written in the late 1920s, invents a time machine and travels several years into the future, but what he sees is so horrible that he hurries back and tells nobody about it.

In the same alarmist vein is Yevgeny Zamyatin's famous futurist novel *We* (1924), one of the key books of the twentieth century. To the indignation of the Soviet press, it was first published abroad. The critic Alexander Voronsky denounced it as a hostile caricature of communism. He could not have known of the sinister

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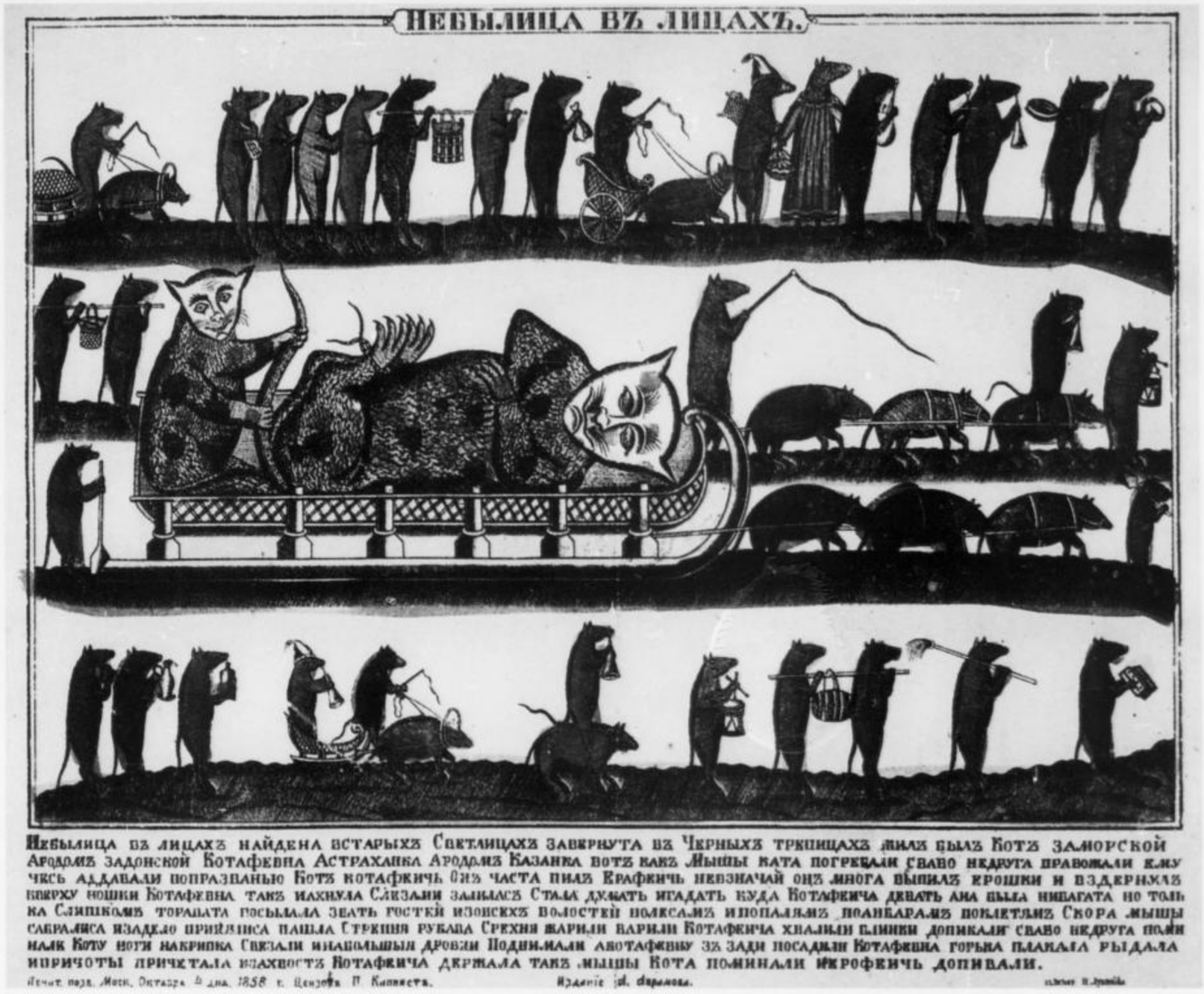
of the Soviet Union, is a literary critic and essayist. A student of utopia and fantasia in fiction, he has written over 200 works including essays entitled "Neither Truth nor Invention", "Tragedy and Fairytale" and "Realism in Fantasy".



Right, *The Burial of the Cat* (1858), a lithograph in the Russian folk art tradition known as *lubok*. It is thought by some to be a representation of the burial of Tsar Peter the Great by the peasants.
Below, *Multicephalic Machine* (1989), wood engraving by Paul Kichilov.

developments that would transform Zamyatin's fiction into reality only ten or fifteen years later, that Zamyatin would manage to emigrate, and that he, Voronsky, would end his days in a prison camp set up by Stalin's secret police, which bore an astonishing resemblance to the Guardians described in the novel.

Such a pessimistic view of man reduced to a number is a grotesque exaggeration—or is it? The twentieth century, so rich in invention, has brought several similar surprises. Signs of Zamyatin's world can be seen wherever independent thought is suppressed, the individual is enslaved, and people are trained like animals to respond to a ringing bell. Have we not seen entire nations seized by a paroxysm of admiration for their "Benefactor", as Zamyatin calls him?

A wild hope

The utopian writers of the 1920s were the children of their age. Their novels invariably begin with the triumph of world revolution. Thus, in one of the first Soviet utopian novels, *The Coming World* by Yakov Okunev (1923), two men wake up 200 years into the future. What do they see? "There are hardly any open spaces left on the globe. As far as the eye can see there are streets, gardens, squares, more streets...a boundless world city." Okunev, like Odoyevsky, seems to view nature as an enemy that should be conquered and

tamed. Today hardly anyone would be delighted to see such a concrete jungle.

A similar picture emerges in V. Nikolsky's *A Thousand Years After* (1926), which describes the world of the thirtieth century as brighter, cleaner and richer than ours, but containing hardly anything that had not been imagined sixty years before, except that in Nikolsky's world everything is bigger, stronger, and faster. The author extrapolates from the world he knows: machines are as big as railway carriages or weigh 100 tons, a mine is 2,000 kilometres deep, and an artificial satellite orbits the Earth.

In the early 1930s, when Stalin was fashioning ideology with his callous hands, forecasts of the future ceased to appear. From then on, those who wrote about the future had to base their work not on the study of real life or on their own fantasies but on prevailing ideological dogma, which meant armed confrontation between socialism and imperialism, with the former winning a quick and easy victory.

A painful awakening

The appearance of Ivan Efremov's novel *Andromeda* in 1957 is closely associated with the reawakening of social consciousness that took place after Stalin's death in 1953. Today it is difficult to share Efremov's unflagging optimism about the future of humanity, but his novel is the most complete picture of communist society in the history of utopian thought. In fact Efremov depicts a depoliticized society which has rid itself of all kinds of oppression.

Perhaps the most attractive feature of the society he describes is that it provides all its members with an opportunity to fulfil themselves, rather than providing guarantees of welfare or longevity.

Efremov depicts the world with more warmth than his predecessors, and it is really possible to conceive of living in it, which is more than can be said for the sterile barracks described by some of his predecessors. This is not to imply that everything is perfect—today's reader is sure to note Efremov's indifference to ecological problems. The threat to the environment escaped the attention of most science fiction writers.

The utopia imagined by Efremov will probably be the last to evoke a society of absolute harmony and tranquillity. Efremov's euphoria soon evaporated. His next novel about a distant future, *The Hour of Taurus*, written only ten years later, is filled with dark foreboding.

The highroad of history seems to have taken an unexpected turning. But where is it leading? The next generation of utopian writers will have plenty to think about. ■

BLUEPRINTS FOR AN

HISTORICAL studies of plans for ideal cities tend to be preoccupied with geometry and symmetry: they are all square, circular, polygonal or hexagonal. Aristophanes, in his play *The Birds*, makes fun of the concept of geometric cities, of Plato and his disciples and of all rigid planners of other people's futures.

The recurrence of geometric plans in utopias down the ages is partly explained, of course, by the nature of the walled and fortified towns of classical and medieval times, and partly by the fact that all these schemes are what economists would call "models" or what sociologists would call "ideal types". If they were ever realized, they would be modified to accommodate existing physical features, artefacts and social institutions.

IDEAL COMMUNITY

BY COLIN WARD

There was little recognition of this among utopians before the humanist writers of the Renaissance.

The fifteenth-century Italian architect Leon Battista Alberti, for example, did not attempt to design an ideal city (although his projects include an ideal Fortress for a Tyrant, in which the palace is protected equally against the external and the internal enemy). He insists that it is enough to discover the principles that can be adapted to any site and the needs of the citizens.

During the Renaissance Europeans began to travel the world as a prelude to conquest and exploitation. The tales they brought back influenced a series of utopian books. Thus the hero of Thomas More's *Utopia*, Raphael Hythlodaye,

Left, *Work*, by the English artist Ford Madox Brown (1821-1893). Above, 19th-century depiction of a phalanx, the ideal community advocated by the French social theorist Charles Fourier, who was inspired by Renaissance images of utopia.

is cast as a Portuguese sailor from the crew which sailed with the explorer Amerigo Vespucci.

More's book, written in Latin, takes the form of a discussion in the garden of a house in Antwerp, between himself, Raphael Hythlodaye and a Flemish friend, Peter Gilles. Hythlodaye remarks that life is fairer in the island of Utopia, where property is owned by the community, than in the England of their day.

To prove his point, he describes the commonwealth of Utopia. Particular attention is given to the architecture and planning of utopian cities: "Their buildings are good, and are so uniform, that a whole side of a street looks like one house. The streets are twenty feet broad; there lie gardens behind all their houses...every house has both a door to the street and a back door to the garden.... There being no property among them, every man may freely enter into any house whatsoever. At least every ten years they shift their houses by lots."

In More's ideal city everybody understands farming. Children learn it at school and in visits to the country. Everyone turns out to help at harvest time. If the population of any city grows, they do not build over the gardens, but "fill up the lack in other cities", or "build up a town in the next land where the inhabitants have much waste and unoccupied ground".

Utopian writing of the European Enlightenment in the eighteenth century also used stories of the exploration of unknown regions as a device to criticize the familiar world of the European states. Even before Australia was "discovered"

by voyagers, the French writer Gabriel de Foigny published *New Discovery of Terra Incognita Australis* (1676). He was the first utopian to conceive of a society without government. Following the French navigator Louis-Antoine de Bougainville's exploration of the islands of Oceania in the 1760s, Denis Diderot wrote his delightful *Supplement to Bougainville's Voyage.* Published posthumously, after the French Revolution, it consists of an imaginary conversation between an old man from Tahiti, who describes the freedom and plenty that existed before the Europeans came, and a French sailor who tells him of the misery of the poor in pre-revolutionary France.

Worlds of industrial plenty

The nineteenth century changed everything, including utopias. The steam engine, iron and steel, the railway, the factory system and the huge growth of towns and cities all led to utopian writing which projected the pace of industrialization into the future. In 1816 the philosopher and economist Claude-Henri de Saint-Simon was already predicting that France and its population would be organized as one vast factory. Later in the century, in *The Coming Race: or the New Utopia* (1870), Lord Lytton foresaw a future in which machinery and robots would be powered by a new form of energy called *vril.* This was followed by another widely read industrial utopia by the American writer Edward Bellamy, *Looking Backward* (1888), in which the hero awakens from a hypnotic state in the year 2000. His host explains what has happened:

"The movement toward the conduct of business by larger and larger aggregations of capital, the tendency towards monopolies, which has been so desperately and vainly resisted, was recognized at last, in its true significance, as a process which only needed to complete its logical evolution to open a golden future to humanity.... When the nation became the sole employer, all the citizens, by virtue of their citizenship, became employees, to be distributed according to the needs of industry...."

The optimistic scientific utopias of the nineteenth century gave rise to a whole genre of deeply pessimistic anti-utopian literature in the twentieth: savage satires on the trends of industrial society by such writers as H.G. Wells, George Orwell and Yevgeny Zamyatin.

A simpler life

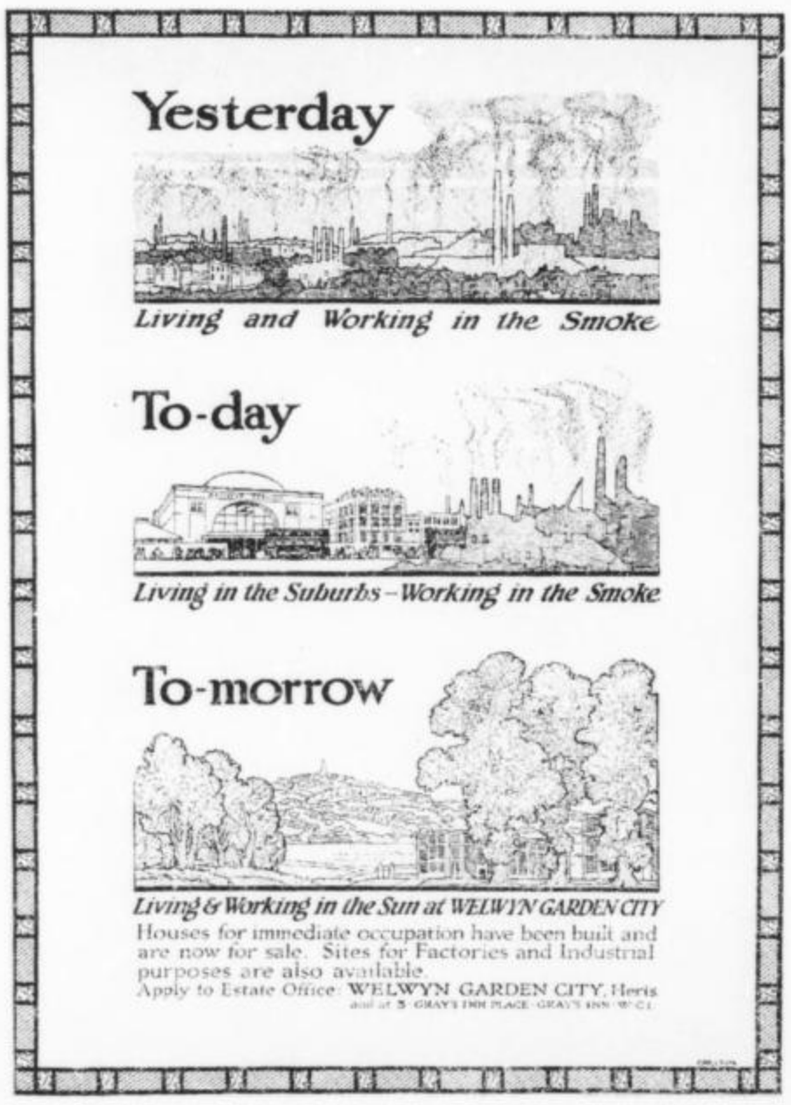
There also arose in the 1890s a stream of alternative utopian thinking, looking towards what we would now call a post-industrial, ecologically viable human society.

The English poet and craftsman William Morris was so outraged by Edward Bellamy's vision of the world as one vast factory that he wrote a history of the future that *he* wanted. In *News from Nowhere,* the author awakens in a future England which has abandoned not only factories but government and money too. It has become a nation of craft workers, delighting in making beautiful things, whose idea of a holiday is to row up the river to work in the fields at harvest time. The "big murky places which were once the centres of manufacture" have disappeared, and the ecological change in the human environment is the result of a change in the purpose of work.

Citizens of the future explain to the time-travelling Morris: "The wares which we make are made because they are needed; men make for their neighbour's use as if they are making for themselves, not for a vague market of which they know nothing, and over which they have no control.... Nothing *can* be made except for genuine use; therefore no inferior goods are made. Moreover, as we have now found out what we want, so we make no more than we want; and as we are not driven to make a vast quantity of useless things, we have time and resources enough to consider our pleasure in making them. All work which would be irksome to do by hand is done by immensely improved machinery; and in all work which it is a pleasure to do by hand, machinery is done without...."

Two contemporaries of Morris also had an immense concern for the details of productive work and the decentralization of human settlements. Peter Kropotkin, a Russian geographer and anarchist, argues in favour of mixing factory work with farm work, brain work with manual work, and town jobs with country jobs, in his *Fields, Factories and Workshops* (1899).

Looking at the enormous productivity of small workshops and horticulture as opposed to large-scale industry and farming, Kropotkin



Publicity poster produced in 1921 was designed to attract people to the new garden city at Welwyn, Hertfordshire (UK). It contrasts the industrial city with the modern suburb and shows the garden city as a natural progression.

The COLOSSOL STATUE of MOUNT ATHOS *Parr Sculp.*

as designed by **Dinocrate**s *Architect to* **Alexander** *the great who formed a project of cutting the mount into the image of a man sitting, who in one hand was to hold a bason which was to be a receveir for the water that issued from the top of the mountain, from whence in its passage to the Sea it was to run through a city part whereof was to be built in his lap. Alexander thought this design worthy his greatness but never attempted to put it in execution.*

The Greek architect Dinocrates (died c. 278 BC) is best known as the designer of the Egyptian city of Alexandria. This English engraving illustrates his project to carve Mount Athos into a colossal statue of Alexander the Great. Water from the mountain was to flow into a basin held in one hand of the statue before running through a city on its way to the sea.

claims that the future lies with the dispersal of both. The significance of this book, which gives it relevance almost a century later, is that it is a plea for "a new economy in the energies used in supplying the needs of human life, since these needs are increasing and the energies are not inexhaustible".

Another utopian contemporary of Morris was an obscure English inventor and shorthand writer, Ebenezer Howard. The question he asked himself was very simple. How can we solve the problems of desperate overcrowding in the metropolitan city, with all the human misery it produces, and at the same time cope with the depopulation of rural areas from which the young and active escape precisely because of the lack of opportunities?

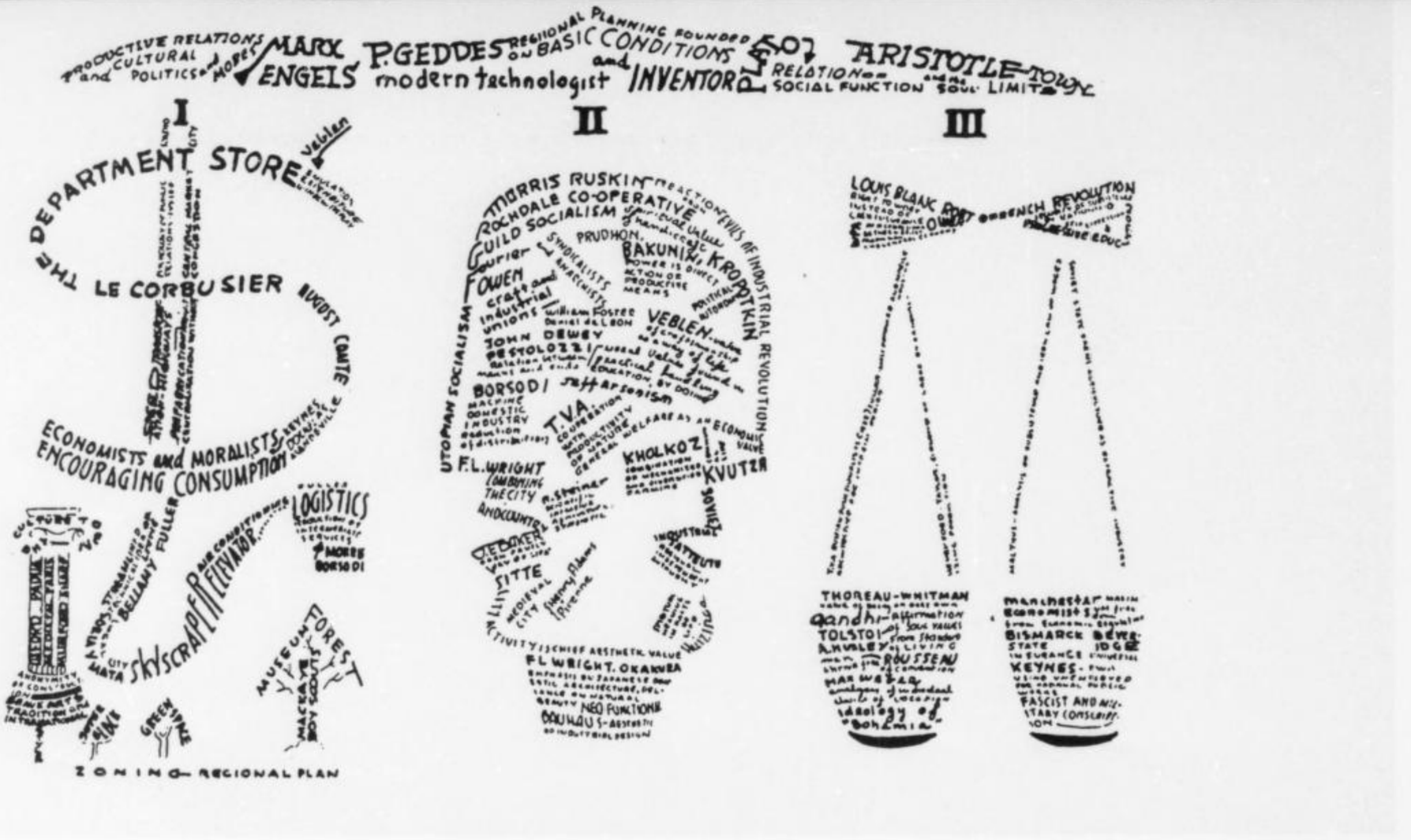
Howard's answer was the garden city. His book *Garden Cities of Tomorrow* (1898) advocates a network of planned small towns, providing homes and employment and incorporating agriculture with industrial work, surrounded by a green belt, and linked by public transport to form a "Social City". It was very influential in the ideology of town and country planning. Howard himself founded two garden cities in the United Kingdom, Letchworth and Welwyn Garden City, and his work inspired the British government's New Towns programme after the Second World War.

Ecological utopian thinking

There is an extraordinary gap between the widely read utopian writings of the 1890s and the new environmental, ecological awareness that emerged in the 1970s, with its consciousness of the finite nature of the world's resources and the terrifying rate at which they are being exhausted. Few utopians have explored the implications of an ecologically aware civilization.

One notable exception is the American science fiction writer Ursula Le Guin. Her novel *The Dispossessed* (1974) presents the experiences of a visitor from one planet, where a Kropotkinian ethic of mutual aid has won a viable society from an arduous environment, to another planet where society is built upon self-indulgent consumerism. Another American novel, Ernest Callebach's *Ecotopia* (1975), carefully examines the dilemmas which would face a society which attempts to adopt a green or ecologically aware ideology.

One book that I would like to put into the



***Bibliography for Three Ways of Life Today*, by Paul and Perciva! Goodman:**
I—Efficient Consumption;
II—Elimination of the difference between production and consumption;
III—Maximum Security, Minimum Regulation.

hands of anyone interested in the connections between utopia, architecture and ecological consciousness is an older American exploration of utopian imaginings. This is *Communitas: Means of Livelihood and Ways of Life* (1947) by Paul and Percival Goodman. They were brothers, a poet and an architect, and they compiled this book during the Second World War as a modest and dissident contribution to the worldwide debate on "post-war reconstruction". Numerous works of this kind were produced in many countries, most of which have been completely forgotten. *Communitas* survives because, as the philosopher Lewis Mumford put it, it is the only modern contribution to the art of building cities which "deals with the underlying values and purposes, political and moral, on which planning of any sort must be based".

The Goodman brothers saw a "community plan" not as a layout of streets and houses, but as the external form given to human activity: "There is a variety of town schemes: gridirons, radiations, ribbons, satellites, or vast concentrations; what is important is the activity going on, how it is influenced by the scheme and how it transforms any schemes, and uses or abuses any site, to its own work and values."

Their book examines the three main types of city plan which had emerged in the previous hundred years, grouping them into Green Belt Plans, Industrial Plans and Integrated Plans. They see the first as a reaction against the ugliness and squalor of the factory system—attempts to recreate pre-industrial values, or to live decently *with* industry. Next they turn to city plans centred on production, with an absorbing discussion of forgotten urban utopias dreamed about in the Soviet Union in the 1920s, and of the technological solutions appropriate to an advanced economy put forward by the American engineer Buckminster Fuller. His "Dymaxion" house, conceived in 1929-1932, was based on the mass production of lightweight self-sufficient houses which did not require public utilities, but did depend on an industrial system in the background.

Finally the Goodmans examine those utopian plans which integrate city and country, such as American architect Frank Lloyd Wright's dream of Broadacre City where the whole population is dispersed over the entire countryside and dependent on small farming and vaguely decentralized industry. This formula was more effectively argued for many years by another American, Ralph Borsodi, who declared that by cutting out the costs of transportation and marketing and a host of middlemen, at least two-thirds of the goods and services required in a home could be more efficiently produced domestically with electrically powered tools.

Yet the brothers were sternly realistic. They had the honesty to emphasize, rather than minimize, the fact that we all have different utopian dreams. Aware that someone's utopia is someone else's hell, they arrived at three quite different formulae for ideal communities.

The first is the City of Efficient Consumption, which can be recognized in most European or American cities today. The second, the New Commune, is an idealized version of the small workshop economy that actually sustains the Italian region of Emilia-Romagna today.

The third, in which they envisage a two-level economy, they call Maximum Security: Minimum Regulation. Everyone would be obliged to work for a short time (as in military conscription) in a basic economy, attending the machines which provide food, clothing and shelter, distributed free to all. The rest of the time would be occupied in a luxury economy in which the choice of activity is left to the individual. Needs such as medicine and transport would be taken care of by a financial arrangement between the subsistence economy and the secondary economy. This solution may well prove instructive to politicians seeking to resolve the contradictions between the ideology of a welfare state and the virtues of a free market. ■

COLIN WARD
is a British author whose many books include *Anarchy in Action* (1973), *The Child in the City* (1978), *Arcadia for All* (1984) and *Welcome, Thinner City* (1989).

A UTOPIA FOR OUR TIMES?

A radical approach to education as a means to the complete fulfilment of the individual

NON-STOP LEARNING

BY GILBERT LECLERC

Is the idea of lifelong education utopian? Partly it is a matter of definition. Strictly speaking, the only projects that qualify to be called utopian are those that envisage a new world radically different from our own, based on aims and values entirely different from those of the established order and drawing on a common will for change. Absolute otherness is the hallmark of utopia.

So to answer the question we must find out whether or not the concept of an educational experience stretching from the cradle to the grave implies the complete transformation of present-day education and whether or not it presupposes a new model of society.

The fact is that lifelong education involves a great deal more than a learning experience lasting from infancy into old age. It also embraces the idea that education should no longer be exclusively confined to schools. Instead it should embrace all of life—work, leisure, the environment, family, job, society, international relations. It requires that people should become their own teachers so as to realize their full intellectual, emotional and artistic potential. And it demands that in this quest everyone should have an equal chance of success.

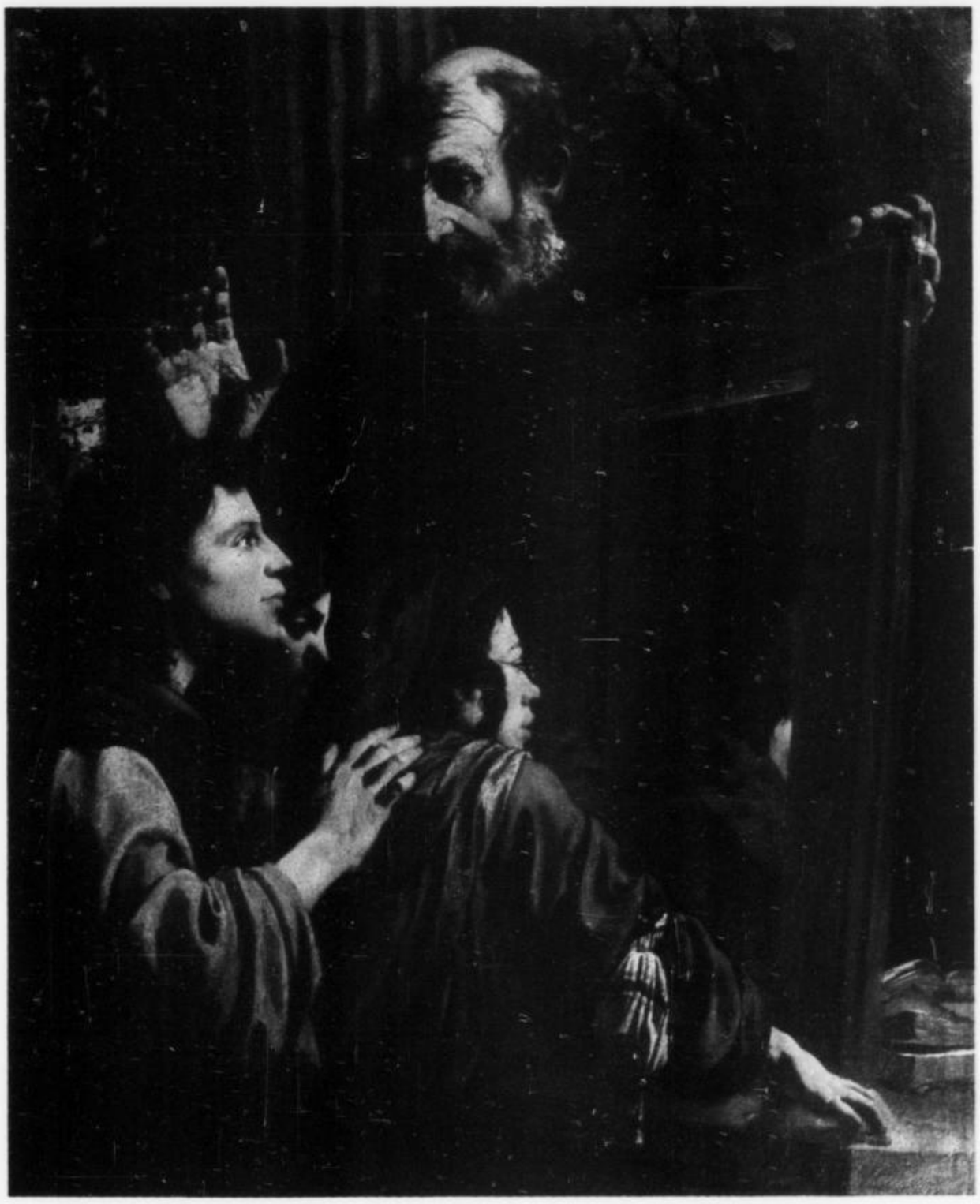
In this new view of education, every aspect of a person's life has some educational significance. The whole panoply of educational resources must be available to all, so every individual can attain his or her full potential.

This last objective is of central importance for all the pioneers of the new philosophy, and particularly those who have worked with Unesco in this field. Lifelong education seeks nothing less than the complete transformation of the experience of learning, which it attempts to expand to its uttermost limits in time, space, and the social arena. It aims to replace a part-time and compartmentalized system with one that is both continuous and integrated. Under its aegis, every aspect of peoples' existence would be open to the lessons of a world in which education is omnipresent. The theory demands a completely new perspective. Opened up in all directions, the horizons of education become almost limitless.

The idea, then, is certainly revolutionary in its educational implications, but does it presuppose a social transformation of similar scope? Once again its proponents would answer "yes". A society genuinely dedicated to education in its widest sense requires both new structures and altered ways of thinking. Such a commitment would not be compatible with a profit-oriented consumer society. Nor would it sit easily with a technocratic world in which knowledge is the restricted property of specialists, or with a bureaucratic society that tends to obfuscate the ways in which it is run.

So by its very nature the concept of lifelong education would seem to be utopian. The old ideal of an education fulfilling all aspirations and developing every potential has doubtless never before been pushed so far. It is hardly surprising,

***Socrates Teaching Children*, oil on canvas by the Italian artist Pier Francesco Mola (1612-1666).**



Above, mature students at a Paris university.
Below, "At School", a plate from a set of colour lithographs entitled *In the Year 2000* (French, early 20th century).

GILBERT LECLERC,
of Canada, is head of the research and development of lifelong education at the University of Sherbrooke, Quebec. The author of a number of articles on utopian thinking, he has also published, with Guy Bouchard and Laurent Giroux, a book entitled *L'utopie aujourd'hui* (Presses Universitaires de Montréal, 1985).

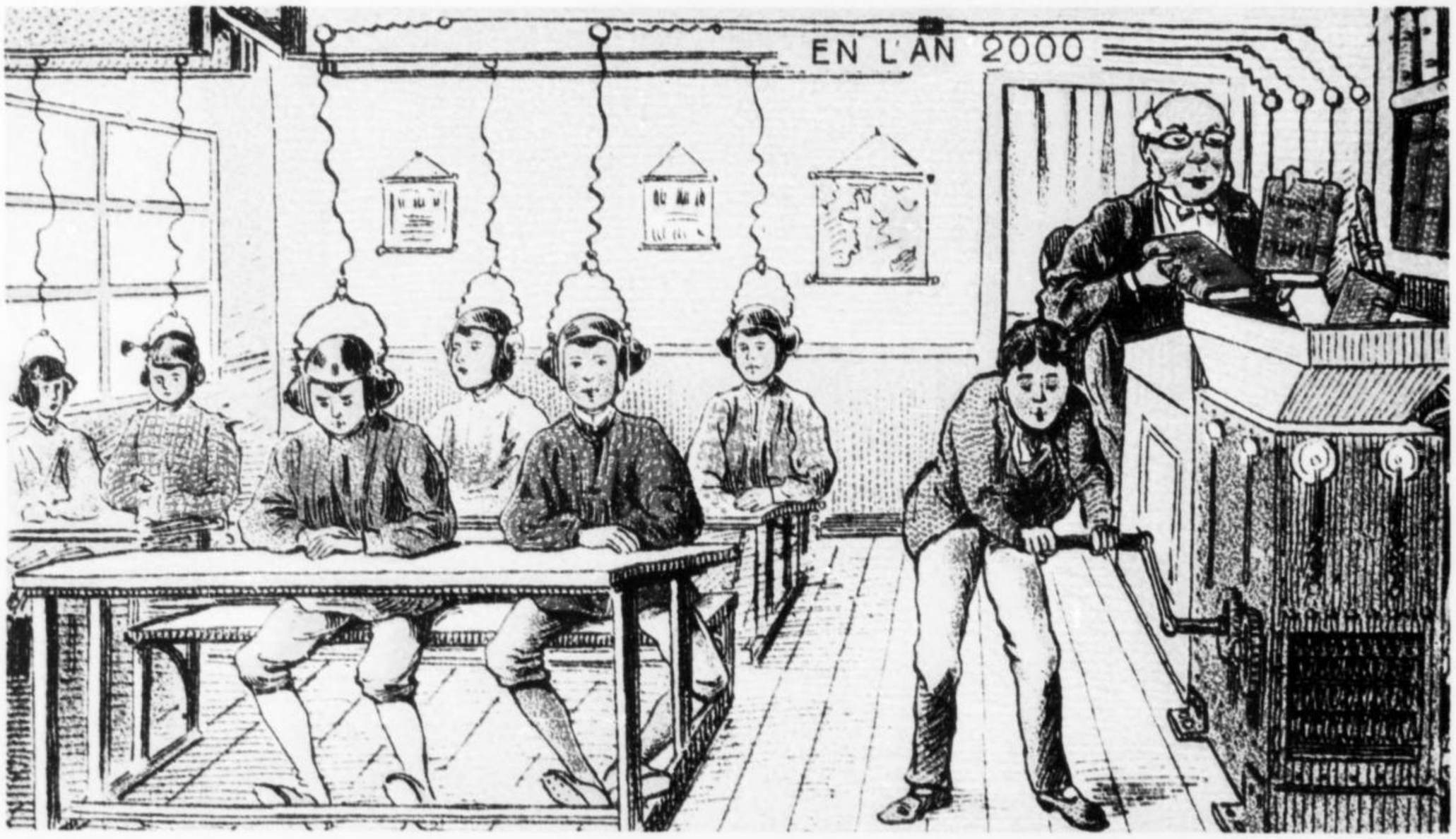
then, that it has induced thousands of men and women to try to construct a new world. Although it is only thirty years since it was first formulated, this dream has already inspired countless projects and experiments in many parts of the world, and in so doing has played an important role in the development of contemporary education.

It is the fate of utopias, though, never to be realized in full. Whenever enthusiasts have tried to transplant their vision from the written page to the real world, whether by democratic or by revolutionary means, they have either been marginalized or forced to compromise to some degree with the existing system—always assuming that they have not simply had to give up. In one sense, then, the history of utopia is an unbroken sequence of failures, for the dreamed-of perfect society has never been brought to fruition.

From another point of view, though, its pages are studded with success, if one considers the untold number of genuine, practical achievements that the utopian vision has inspired. Viewed in this light, utopia appears less as a blueprint for action than as a motive force that, by creating new horizons for social progress, has the power to get history under way. And if human destiny is so rich in potential, it is because the deepest truths about mankind and society cry out for an imagined world that cannot be found in a revamped version of the existing one.

Human activity only takes on its full significance if it can be conceived of as an incessant search for totalization. People have always held before them as a beacon a vision of some state or condition that would lead them away from the particular and towards the totality of experience. Inevitably they have drawn inspiration from the imaginary, since the condition they seek does not yet exist; insofar as it is not simply a variant on existing conditions, it is necessarily utopian, which is to say radically other. No genuinely innovatory change is possible without this visionary dimension.

As education is particularly concerned with the totalization of experience and with the fulfilment of human potential, it is bound to feed on utopias. Without them it would be caught in a vicious circle of repetition and stereotypes. Need one add, then, that a utopian approach to education is just as essential as a scientific approach? Imagination and reason both have a part to play in shaping tomorrow's education. The role of the imagination is to come up with new models, better adapted than existing ones to the individual's changing needs. Reason must test these visions and put into action those that are viable. The road to reality must pass through the creative imagination. ■



DOCUMENT

In 1946 the British scientist and humanist Julian Huxley (d. 1975), soon to be Unesco's first Director-General, wrote a long paper entitled *Unesco, its purpose and its philosophy*, in which he set forth guidelines for the new organization. The document was highly controversial. It was regarded by some as an attack on religion, by others as pro-communist. Eventually Unesco's General Conference refused to sponsor its publication. Over forty years later, Huxley's "planetary utopia" has lost none of its force or topicality. Published below are salient extracts.

A PLANETARY UTOPIA

BY JULIAN HUXLEY

In general, Unesco must constantly be testing its policies against the touchstone of evolutionary progress. A central conflict of our times is that between nationalism and internationalism, between the concept of many national sovereignties and one world sovereignty. Here the evolutionary touchstone gives an unequivocal answer. The key to man's advance, the distinctive method which has made evolutionary progress in the human sector so much more rapid than in the biological and has given it higher and more satisfying goals, is the fact of cumulative tradition, the existence of a common pool of ideas which is self-perpetuating and itself capable of evolving. And this fact has had the immediate consequence of making the type of social organization the main factor in human progress or at least its limiting framework.

Two obvious corollaries follow. First, that the more united man's tradition becomes, the more rapid will be the possibility of progress: several separate or competing or even mutually hostile pools of tradition cannot possibly be so efficient as a single pool common to all mankind. And secondly, that the best and only certain way of securing this will be through political unification.

As history shows, unifying ideas *can* exert an effect across national boundaries. But, as history makes equally evident, that effect is a partial one and never wholly offsets the opportunities for conflict provided by the existence of separate sovereign political units.

The moral for Unesco is clear. The task laid upon it of promoting peace and security can never be wholly realized through the means assigned to it—education, science and culture. It must envisage some form of world political unity, whether through a single world government or otherwise, as the only certain means for avoiding war.

However, world political unity is, unfortunately, a remote ideal, and in any case does not fall within the field of Unesco's competence. This does not mean that Unesco cannot do a great deal towards promoting peace and security. Specifically, in its education programme it can stress the ultimate need for world political unity and familiarize all peoples with the implications of the transfer of full sovereignty from separate nations to a world organization.

But, more generally, it can do a great deal to lay the foundations on which world political unity can later be built. It can help the peoples of the world to mutual understanding and to a realization of the common humanity and common tasks which they share, as opposed to the nationalisms which too often tend to isolate and separate them. (...)

Our evolutionary analysis shows clearly enough that a well-developed human individual is the highest product of evolution to date. This provides external and scientific support for the democratic principle of the dignity of men, to which by its Constitution Unesco is committed.

It also constitutes a complete disproof of all theses, like those of Hegelian philosophy, of fascism, or of nazism, which maintain that the state is in some way higher than the individual, and that the individual exists only or primarily for the state.

On the other hand, we have been brought to realize that the evolution of man, though a natural continuation of that of the rest of life, is quite a different process, operating by the essentially social method of cumulative tradition, and manifesting itself primarily in the development of societies, instead of in the genetic nature of the individuals composing them. And this at once makes it equally obvious that the opposed thesis of unrestricted individualism is equally erroneous.

The human individual is, quite simply, meaningless in isolation; he only acquires significance in relation to some form of society. His development is conditioned by the society into

which he is born and the social traditions which he inherits; and the value of the work he does in life depends on the social framework which benefits by it or transmits it to later time.

Thus Unesco's activities, while concerned primarily with providing richer development and fuller satisfactions for the individual, must always be undertaken in a social context; and many of its specific tasks will be concerned with the social means towards this general end—the improvement of social mechanisms or agencies, such as educational systems, research organizations, art centres, the press, and so forth.

In particular, Unesco must clearly pay special attention to the social mechanism of cumulative tradition in all its aspects, with the aim of ensuring that it is both efficient and rightly directed in regard to its essential function of promoting human evolution.

The unifying of traditions in a single common pool of experience, awareness, and purpose is the necessary prerequisite for further major progress in human evolution. Accordingly, although political unification in some sort of world government will be required for the definitive attainment of this stage, unification in the things of the mind is not only also necessary but can pave the way for other types of unification.

Thus in the past the great religions unified the thoughts and attitudes of large regions of the Earth's surface; and in recent times science, both directly through its ideas and indirectly through its applications in shrinking the globe, has been a powerful factor in directing men's thoughts to the possibilities of, and the need for, full world unity.

Special attention should consequently be given by Unesco to the problem of constructing a unified pool of tradition for the human species as a whole. This, as indicated elsewhere, must include the unity-in-variety of the world's art and culture as well as the promotion of one single pool of scientific knowledge.

But it must also eventually include a unified common outlook and a common set of purposes. This will be the latest part of the task of unifying the world mind; but Unesco must not neglect it while engaged on the easier jobs, like that of promoting a single pool of scientific knowledge and effort. ■

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The Great Wall lengthens

Chinese archaeologists say they have discovered a new section of the Great Wall of China. Until recently the 5,000-km-long Wall was thought to end near the coastal town of Shanhaiguan in northern China's Hebei province. The archaeologists now claim that a 1,000-km-long M-shaped section of the Wall stretches through Liaoning province as far as the city of Dandong.

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Epidemic takes toll of Mediterranean dolphins

The dolphin population of the western Mediterranean is dying at an alarming rate. In a two-week period during the summer of 1990, 50 dead dolphins were found on French beaches alone, as many as are usually found in a year. The toll in Spain was up to 250 in less than 3 months. Laboratory tests showed that the deaths were due to the same type of virus that killed some 20,000 North Sea seals in 1988. Autopsies also showed that the dolphins' tissues are contaminated with metals and toxic chemicals. Their immune systems weakened, the dolphins become more vulnerable to disease. The Mediterranean is now so polluted that many marine mammals are at risk.

■ ■ ■

Waste not

The members of the European Economic Community (EEC) have decided to stabilize by the year 2000 emissions of carbon dioxide, the gas mainly responsible for the greenhouse effect, at 1990 levels. Another important recent measure to protect the environment was the adoption by 64 leading industrial nations of a proposal from the Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) to halt within 5 years all disposal of industrial waste at sea and to encourage its recycling or treatment.

■ ■ ■

Galactic giant

American astronomers have identified the biggest galaxy yet known. Located at the centre of a cluster of galaxies known as Abell 2029, it is 60 times bigger than our Milky Way galaxy. With a diameter of 6 million light-years, it contains 1,000 billion stars whereas our galaxy contains barely 2 billion. The previous record was held by the Markarian 348 galaxy, which is 1.3 million light-years in diameter.

■ ■ ■

Giacometti at Madrid

The Centro de Arte Reina Sofia in Madrid has reopened its doors after a facelift. Housed in a 6-storey building that was a hospital in the 18th century, the museum seeks to be a beacon for 20th-century Spanish art, much as the Prado Museum is a showcase for older art treasures. As well as housing its own 13,000-piece collection of modern Spanish art, it will put on temporary exhibitions. From November 1990 to January 1991 it held a major retrospective of Alberto Giacometti, with some 300 sculptures, paintings and drawings. The Madrid exhibition gave a foretaste of Giacometti exhibitions to be held in Paris and Zurich later this year, the 25th anniversary of the great Swiss artist's death.

■ ■ ■

Climate change and agriculture

Possible climate warming may have a severe impact on world agriculture and increase the risk to food supplies in many countries already suffering from hunger and malnutrition in regions such as Central America, Africa and Southeast Asia. In these regions agricultural yields could drop by 25%, producing a 20% rise in the cost of major food products on world markets, warns Dr. Martin Parry of the University of Birmingham (UK), who led the agricultural impact assessment conducted by the Intergovernmental Panel on Climate Change (IPCC). His report, *Climate Change and World Agriculture*, prepared for the United Nations Environment Programme and the International Institute for Applied Systems Analysis, is available from Earthscan Publications, London (1990).

■ ■ ■

Columbus was here

The 500th anniversary of Christopher Columbus's arrival in the Americas will be commemorated in 1992. Archaeologists excavating the site where Columbus and his men founded a colony, at La Isabela, in what is now the Dominican Republic, have identified the stone foundations of the settlement's main buildings, which include a large storehouse, watch tower and sentry posts, a powder house, hospital, church and cemetery, and what was probably Columbus's house. They have also unearthed a large quantity of mercury, which the Spaniards had brought for separating from the mineral matrix the pure gold they had hoped to find in abundance.

■ ■ ■

Plants galore

The colossal task of preparing a computerized catalogue of the world's plants was launched at an international conference of botanists held at the Royal Botanic Gardens, Kew (UK), last November. Some 250,000 plant species are known today, a massive increase on the 8,000 classified and described by the great Swedish naturalist Carl von Linné (Linnaeus) in the 18th century.

■ ■ ■

A leap backward

Until recently palaeontologists believed that the first aquatic animals which left the water to colonize the land did so some 400 million years ago. However, three British geologists working near Ludlow, Shropshire, have now discovered the remains of the carapaces, legs and antennae of centipedes and of a spider-like creature which are 414 million years old. These animals were already perfectly adapted to terrestrial life, which implies that the first terrestrial fauna must have appeared much earlier, perhaps as long as 470 million years ago.

■ ■ ■

Unesco prizes for Vaclav Havel

In 1990 Vaclav Havel, President of the Czech and Slovak Federal Republic, was the recipient of two Unesco awards. On 21 November Federico Mayor, the Director-General of Unesco, presented him with the International Simón Bolívar Prize, rewarding "activity of outstanding merit which has contributed to the freedom, independence and dignity of peoples and to the strengthening of a new international economic, social and cultural order". On 10 December, the anniversary of the Universal Declaration of Human Rights, Mr. Havel was awarded the 1990 Unesco Prize for the Teaching of Human Rights.

■ ■ ■

Aid for tropical forests

Germany is to finance an inter-regional co-operation project for the protection of tropical forests. An agreement to this effect was drawn up in October 1990 under the auspices of Unesco's Man and the Biosphere (MAB) programme. The two-year, million-dollar project will be implemented by Unesco in Africa, Latin America and Asia. Its goal is to develop local knowledge and competence in order to tap natural resources without destroying them, and to ensure the better spread of technical and scientific information.

IMAGINARY CITIES

BY CRISTINA GRAU

MANY famous writers have portrayed city life. They have taken over real cities and transformed them into literary objects and they have created imaginary cities with lives of their own. They have reconstructed urban settings from scattered fragments of memory, and have brought fame to cities that were previously unknown.

A stroll through the urban landscapes of literature reveals a variety of creations: cities depicted with a high degree of realism, cities in the abstract, cities which merely provide background atmosphere, and cities which are themselves protagonists in works of fiction.

The realistic city

Joyce's Dublin, Proust's Paris, Kafka's Prague, and the Buenos Aires of Borges are realistically depicted cities which help to shape the course of the fictional events which take place in them.

Although Kafka rarely refers to Prague in his novels and short stories, his native city has a very special place in them. Prague is never actually named in *The Trial,* for example, but the meandering corridors and passages, the disconnected settings through which Joseph K. wanders in an attempt to find out why he is being tried, evoke the atmosphere of Gothic Prague and the labyrinth of narrow streets in its Jewish district.

The city is seen as if in a dream or through the mists of memory, in black and white, with the contrasts of light and shadow that appear in Expressionist films. The impression of being in a dream is reinforced by topological distortions (as when something distant suddenly seems very near, and vice versa) and by changes of scale which make space seem to expand or contract, depending on K.'s state of mind. The vision of reality is phantasmagoric.

The building in which K.'s trial is to be held "was of unusual extent, the main entrance was particularly high", but when K. enters it he gets lost in a maze of corridors, landings, stairways and empty rooms—it is more like a tenement than a law court. On another occasion, K. opens the door of a lumber-room in the bank where he works and "finds himself suddenly in the court precincts".

In his story *Amerika,* Kafka depicts New York, where he never set foot, as an abstract, futuristic version of Prague. The outstanding features are the towering skyscrapers and geometric layout that differentiate it most strongly from his native city, with its labyrinth of winding streets and alleyways. When Karl, the hero of the story, leans over the balcony of his uncle's New York house (a balcony is not exactly typical of New York buildings), he is fascinated by the sight of the street which "ran perfectly straight between two rows of squarely chopped buildings and therefore seemed to be fleeing into the distance". Here too, the city is perceived in monochrome. Despite the crowds and the skyscrapers, Kafka's imaginary New York does not exist except in terms of Prague, which he uses as a kind of blueprint.

***Capriccio* (1795) by William Marlow.**

The camouflaged city

Many cities in literature are inspired by real cities whose names are changed, perhaps because the author wishes to eliminate local colour, to conceal the true identity of the characters, or simply wants a better-sounding name than the original. But even under its new name, the real city can still be seen beneath the camouflage. Vetusta, the setting of *The Regent's Wife* by the Spanish novelist Clarín (Leopoldo Alas) is a faithful reflection of the Spanish city of Oviedo. What is most memorable in Clarín's description is the sense of space which can be felt from the very first chapter in which a priest climbs to the top of the cathedral bell-tower to spy through a telescope on the comings and goings of parishioners who reveal their sins to him in the confessional.

The little town of Illiers near Chartres (south of Paris) was immortalized as Combray in Proust's *A la recherche du temps perdu* and is now officially known as Illiers-Combray. The fictional town is so skilfully superimposed on the real town that a visitor to Illiers who has

read *Swann's Way*, the first part of Proust's great novel, has no difficulty in recognizing the setting of the principal scenes—Aunt Léonie's house, the church of Saint-Hilaire, the main square, the château of Tansonville, the Pré Catelan. Stone by stone, street by street, Illiers coincides exactly with Combray.

The imaginary city

A city cannot be created out of nothing. The ostensibly imaginary cities of literature are actually an amalgam of fragments of cities which the writer has known. As a rule it is impossible to identify these heterogeneous monsters.

The mythical city of Santa María is a thread that runs through the work of the Uruguayan writer Juan Carlos Onetti and gives it unity and universality. The city is never far from the thoughts of his characters. As a result of Onetti's desire to eliminate anecdotal details and references to existing places, Santa María could be any provincial city on the banks of a river, with low-roofed houses, a resplendent new hotel and a plaza bordered with arcades. Argentine and Uruguayan readers may be tempted to identify the river as the Río de la Plata and Santa María as the city of Colonia, if they try to relate Onetti's laconic, even contradictory, indications to their own memories and experiences.

Above, *Metropolis* (1916) by George Grosz. Below, *The Thermae of Titus*, engraving by Piranesi (18th century).

In Onetti's novel *A Brief Life*, for example, there is a reference to "a broad river, a narrow river, a solitary and threatening river, in which clouds heavy with torment were reflected". These contradictions introduce an element of ambiguity which allows the river of Santa María to be identified with all rivers. The descriptions of the city are always very general and appeal to other senses than that of sight, as if to blur the contours of objects: "It came to me like a perfume, an aroma that I had long ago inhaled in a confused impression of streets, compost, ivy, an image of a tennis court and of a lantern swaying at the corner of a street."

As "a city hemmed in by a river and a colony of Swiss settlers", Santa María seems to have precise boundaries, unlike Gabriel García Márquez's fictional Colombian township of Macondo, which is presented at different times as a large hacienda, a village or an entire kingdom, with no temporal continuity. Since there is no single narrator, Macondo appears as each person sees it or wishes to see it.

In García Márquez's novel *One Hundred Years of Solitude*, the logic of space and time is often violated as near merges with far, the order of events is mixed up, and the passage of time is slowed down or speeded up. And in the story entitled *Big Mama's Funeral*, where the Supreme

Pontiff, on his way to the funeral in Macondo, glides in his long black gondola past the famous sights of Rome (mixed up with those of Venice), García Márquez abruptly writes: "At dusk the resonant pealing of St. Peter's Basilica mingled with the cracked tinklings of Macondo." But the Pope does not arrive in Macondo in his gondola, but in a canoe loaded with yuccas, bananas and chickens.

The township of Comala in the works of the Mexican writer Juan Rulfo, and the City of the Immortals in the works of Jorge Luis Borges, are two sides of the same coin, nightmarish places inhabited by the dead or by those unable to die.

Comala is a place of memory and dreams, haunted by all those who have lived there and by the dreams they have dreamed. To read Rulfo's *Pedro Páramo* is to be assailed by images of the ghost towns of the American West. Abandoned like the mines which made them rich, they have the surrealist appeal of Giorgio de Chirico's paintings of plazas where there is no human presence, only marble statues or tailor's dummies. The equally uninhabited City of the Immortals described by Borges in his story *The Immortal* is situated on the banks of a river which grants immortality to those who bathe in it.

The narrator, a Roman tribune arriving at the end of a long and arduous journey, like that of the mythical heroes Gilgamesh and Achilles, describes his first contact with the city in the following terms: "I began to glimpse capitals and astragals, triangular pediments and vaults, confused pageants of granite and marble." This architecture, arranged in a disorderly and chaotic manner in a labyrinthine structure, constitutes the city: "In the palace I imperfectly explored, the architecture lacked any finality."

Above, *The Great Metaphysician* (1949), by Giorgio de Chirico. Below, *View of the Ideal City*. Italian, 15th century.

This boundless, chaotic, disorderly, unpopulated city appears to be the work of immortal builders or demented gods. With its magnificent architecture completely divorced from anything on a human scale, it evokes the precincts of a Roman forum, the classical fantasies of a Piranesi engraving, or cities like Petra which have been abandoned for unknown reasons.

Borges has said that his vision of the City of the Immortals was inspired by the tombs in La Recoleta cemetery in Buenos Aires, small temples that bear no resemblance, if only because of their scale, to the place which the reader sees through the eyes of the Roman tribune: "This City (I thought) is so horrible that its mere existence and perdurance, though in the midst of a secret desert, contaminates the past and the future and in some way even jeopardizes the stars."

A dusty and sordid city-cemetery, an infinite marmoreal city-cemetery—two mythical and equally monstrous places.

The invisible city

In *Invisible Cities*, the Italian writer Italo Calvino adopts a different approach to the city, which becomes the protagonist of his story. The book is meant to be an account of the travels of the Venetian explorer Marco Polo to the cities of Kublai Khan's empire. The exoticism of the narrative can be felt in the very names of the cities—Maurilia, Despina, Zirma, Tamara—descriptions of which, alternating with meetings between Marco Polo and the Great Khan and the asides of Calvino himself, disorientate the reader who has the impression that this is a travel book rather than a work of fiction. In this way the reader is gradually made to understand that these apparently remote and fabulous cities are actually the cities of our everyday lives.

After Marco Polo has described at length the many cities of the Empire, the Khan asks him to speak of one city which he has not yet mentioned—Venice. And Marco Polo replies: "Every time I describe a city I say something about Venice. To distinguish the qualities of other cities, I must start from a city that never changes. For me that city is Venice."

In point of fact, Marco Polo's Venice is San Remo, which Calvino admits is the basis of all the cities described in his books: "I cannot overlook the native and familiar landscape. San Remo is the backcloth in all my books...especially in many of my invisible cities."

For each of these writers it is, after all, their native city, the city they know, which provides the foundation for the cities of their imagination—a Platonic archetype fleshed out with endless variations to shape cities which are always new but always similar. ■

CRISTINA GRAU,
Spanish architect, is professor of architectonic projects at the Universidad Politécnica of Valencia, Spain. She is the author of *Borges y la arquitectura* (Cátedra, Madrid, 1989).

RECENT RECORDS

listening

■ JAZZ

Gene Ammons and Sonny Stitt.
Boss Tenors. Straight Ahead from Chicago August 1961.
Gene Ammons (tenor sax.), Sonny Stitt (alto sax.), John Houston (piano), Buster Williams (bass), George Brown (drums).
1 CD. Verve 837 440-2.

Ammons and Stitt, partners in the early 1960s, counterbalance, or rather counterattack, one another in a battle of giants. Ammons' earthy, hard-driving sound, typical of the blues of his hometown of Chicago, is set against Stitt's highly-strung East coast virtuosity, bringing new life to "There is No Greater Love" and "Blues Up and Down". Solid mainstream jazz brought up to date with a rare swing.

George Coleman.
Manhattan Panorama.
Coleman (tenor sax.), Jamil Nasser (bass), Harold Mabern (piano), Idris Muhammad (drums).
1 CD. Theresa TRCD 120.

Apart from the "Mayor Koch" track, this set was recorded live at the Village Vanguard in New York, and the warm and welcoming atmosphere of the club pervades the music. Coleman, one of the best saxophonists in the world, creates direct, energetic music with no frills but packed with innovative ideas. He sings with gusto in "Mayor Koch", his own composition; launches into the "New York Suite" (including "I Love New York", "Manhattan", "How About You?", "Harlem Nocturne" and "Autumn in New York") in a mode reminiscent of late 1960s jazz, and paints his "El Barrio" in vibrant Latin colours.

■ FOLKLORE

Chine: L'Art du Qin ("China: The Art of the Qin"). Li Xiangting.
1 CD. Ocora C 560001.

This recording was made for Radio France in February 1990. Li Xiangting is the greatest living exponent of the qin, a 7-stringed zither. The poetry in these subtle and refined compositions from the traditional Chinese repertoire is evident from their titles, such as "Three Variations on the Plum-Flower", "Autumn Declaiming on the Great Wall" and "Flowing Waters". The ear is gradually captivated by the tiny nuances of phrasing which lead into a dreamlike universe that is difficult to leave.

Anthology of the Music of Niger.
1 CD. Ocora C 559056.

Niger, on the fringes of the Sahara, is influenced by the music of the desert. This recording brings together the music of the Zerma, Songhai, Hausa, Galla, Tuareg and Fulani peoples. The sudden changes of voice, surprising to the unprepared listener, create a dramatic mood that suits the songs of praise or exorcism common to the music of Niger. Detailed accompanying notes are provided by Tolia Nikiprowetzky, an ethnomusicologist specializing in West Africa.

Mali. La Nuit des Griots ("Mali. The Night of the Griots"). Ousmane Sacko and Yakaré Diabate in Concert.
2 cassettes. Ocora 4558662/3.

This is a recording of a concert by the guitarist Ousmane Sacko and his wife, the singer Yakaré Diabate, at Le Havre, France, on 8 January 1983. They are both griots who belong to the tradition of the Mandingo people of West Africa. Some songs from the traditional repertoire praise the *jali* (griots), while others such as "Apollo" and "Saheli Véri" deal with more contemporary themes and social problems. Sacko and Diabate are backed by Boubakar Diabate on the kora and Brahima Kouyate on the balafon. A great art form, which the non-African world is only just beginning to discover.

■ POPULAR MUSIC

Lecuona Cuban Boys.
1 CD. Calig CAL 50586.

A long-awaited reissue on a German label of tracks recorded between 1935 and 1937. The Lecuona Cuban Boys, formed in the 1930s by the composer Ernesto Lecuona, were important ambassadors for Cuban music in Europe and America. The band concentrates particularly on rumba and conga, the most popular dances of that time. The arrangements and the old-fashioned vocal style evoke pre-war films. As the expression of the spirit of an era of Cuban music of which few recordings exist, this is a document of great value.

Ray Lema. *Nangadeef.*
1 CD. Mango CIDM 1000.

An excellent example of African cross-fertilization. Lema's arrangements, backed by fine session musicians, range from reggae ("Hal 99") to Oriental ("Pongi"), to soca or Zairian rumba ("Moni Mambo") or to house music ("Boye Te"). "Orchestra of the Forest", evoking the atmosphere of the African forest, and the brilliant saxophone playing of Courtney Pine on "What We Need", are particularly outstanding.

Various Reggae Refreshers.
The Wailers, Black Uhuru, Gregory Isaacs, Steel Pulse, Third World, Jimmy Cliff, Toots and the Maytals, Burning Spear.
1 CD. Mango 846 269-2.

This compilation of tracks by great Jamaican bands expresses all the fighting spirit of reggae, as in "Hard Road to Travel", "Burnin' and Lootin' ", "Tribal War" and "War in Babylon". The regular strong accent on the backbeat makes reggae rather monotonous rhythmically, but its lasting success with young people everywhere shows that they wholeheartedly identify with its message and with its charismatic musicians.

Isabelle Leymarie ■

■ CLASSICAL

György Ligeti.
Requiem. Aventures. Nouvelles Aventures. ("Requiem. Adventures. New Adventures.")
1 CD. Wergo 60 045-50.

An exceptionally fine recording of 3 of the most beautiful works by the Hungarian avant-garde composer. Ligeti, who divides his time between Vienna, where he lives, and Hamburg, where he teaches, is obviously influenced by the Viennese school, especially by Alban Berg. His austere and difficult music here gives pre-eminence to the voice. In the accompanying notes he describes his approach to musical composition in *Aventures* and *Nouvelles Aventures:* "the 'text', written in phonetic lettering, was not drafted before the composition, but developed at the same time as the music; that is to say, that as pure composition of spoken sound, it is itself music. The point of departure for the spoken sound composition was an idea of the interrelations in emotional behaviour, and not an abstract plan of construction."

Benjamin Britten. *Peter Grimes.*
Peter Pears, Covent Garden orchestra and choruses conducted by Benjamin Britten.
3 CDs. Decca 414 577-2.

Some musicians sum up an entire culture: Bartok in Hungary, Sibelius in Scandinavia and Britten in England, where classical music had been dormant since Purcell and Handel. Britten's opera *Peter Grimes,* which launched his career in 1945, was followed by such works as *The Rape of Lucretia* (1946) sung by the young Kathleen Ferrier, *Billy Budd* (1951), *The Turn of the Screw* (1954) and *Death in Venice* (1973), his last opera. Although the tenor Peter Pears was Britten's lifelong friend and principal interpreter, his version does not compare with that of Jon Vickers, conducted by Colin Davis. Decca's efforts to reissue the bulk of Britten's work are nevertheless to be applauded.

Heitor Villa-Lobos.
Concerto for Guitar and Small Orchestra.
Narciso Yepes (guitar), London Symphony Orchestra conducted by Garcia Navarro.
1 CD. D.G. 423 700-2.

This late work, dating from 1951 (Villa-Lobos died in 1959), is a superb synthesis of Brazilian folklore and the neo-classical music of the twentieth century. The great Brazilian composer's spellbinding magic, well ahead of its time, conjures up the kind of cultural syncretism that is so fashionable today.

Claude Glayman ■

world heritage

The rock-hewn churches of Cappadocia

by Antony Brock

THE setting for the rock-hewn churches of Cappadocia in Turkey is, literally, like nothing on earth. At its bleakest, it could be a moonscape. At its most fantastic, it could be a surrealist scene imagined by Salvador Dali.

Its origin was dramatic: a volcanic eruption millions of years ago that covered the terrain with lava. But its most bizarre features are due to a centuries-long process of erosion that has etched the volcanic rock and ash into steep-sided valleys, sometimes white, sometimes yellow, sometimes slashed with horizontal bars of different colours.

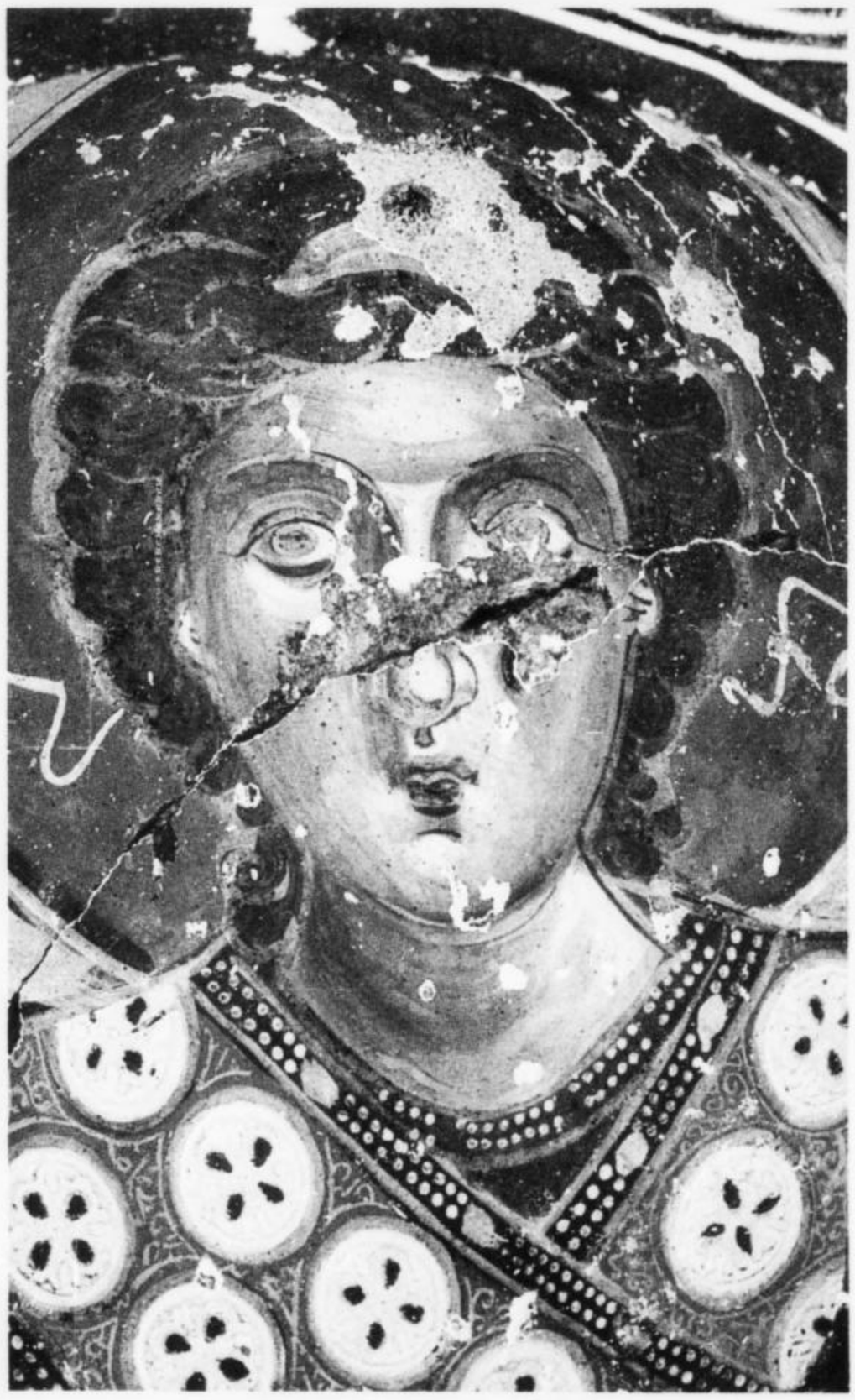
Here and there, where isolated layers or fragments of volcanic rock proved more resistant to erosion than the surrounding ash, nature has produced shapes stranger than any human sculpture. Singly and in groups, there rise from the valley floors rock cones, needles and what the local people call "fairy chimneys", slim pillars topped by horizontal slabs that sit on them like hats.

Yet what is visible in the valleys of Göreme and Zelve is less strange than what is hidden: Byzantine churches with frescoes, flat ceilings, domes or vaulting, tunnelled into the cliff faces or hollowed out of rock cones by men who used the friable "tuff" as material to reverse the normal sequence of architecture, taking away rather than adding on, carving out rather than building up.

Christianity came early to Cappadocia, long before the Emperor Constantine made Byzantium into "New Rome" in 330 AD. For centuries it flourished, and Asia Minor abounded in Christian bishoprics. When Constantinople became Istanbul, the capital of the Ottoman Empire, in the fifteenth century, the most recent churches in the Göreme valley were already 300 years old.

The oldest churches probably date from the seventh century, but when the first Christian inhabitants arrived can only be guessed at. Possibly, they were hermits who hollowed their cells from the soft rocks. It is possible, too, that the mushroom shapes of the "fairy chimneys" attracted the "stylites", those early Christian pole-squatters who spent their days on the top of pillars, to prayer on their insecure summits.

However, the variety of styles in the rock-hewn churches indicates that they were constructed at different dates by different waves of migrants. Most of the churches apparently belong to the later Byzantine period, when the new faith of Constantine had become the old religion, when the Church he made respectable had become in many instances a persecuted sect.



The wild regions of Cappadocia offered natural refuges for monks who wanted to live in peace in self-supporting communities. Where these developed, they attracted peasants to live around them, some in cave dwellings like those in Göreme, which riddle the cliffs like holes in some gigantic Gruyère cheese. Should armies come to their remote havens, monks and peasants had a second line of retreat—underground. The "tuff" could be excavated downwards as well as laterally, and there are some twenty underground refuges in the Göreme area extending to seven or eight levels below the surface. Small entrances and narrow connecting passages which allow only one crouching invader to pass at a time have made those who used these pre-atomic age fall-out shelters secure from all except starvation through long siege.

In one of these underground villages is a Christian chapel with a stone altar and carved cross, but

Detail of a wall painting in the Elmali church.

scholars cannot agree whether religious settlers created them or simply took over the refuges of earlier communities. Whatever the case, it takes no imaginative leap to see the church architects as not only motivated by the easily workable nature of the rock but also by the opportunity it gave to keep the mysteries of their religion away from hostile eyes. Perhaps they saw in the rock-hewn churches a link to the catacombs of Rome and the reputation of the Early Christians as "gens lucifugera"—the people who flee the light.

They left behind a veritable museum of Byzantine styles. For example, in the Elmali or Apple church, one of seven in Göreme and the Zelve valley selected for priority restoration work, two layers of decoration can be seen. The first, painted directly on to the rock, is made up of crosses and geometrical patterns and probably dates from the iconoclastic (literally "image-breaking") period before about 850 AD when the representation of living forms was forbidden. The second, painted on to plaster, shows a Pantocrator, or Christ the Almighty, on the central cupola, with other frescoes depicting scenes from the life of Christ in the style of the eleventh century.

Cross-domed like the Elmali church is the eleventh-century Karanlik, or Dark church, which gets its name from the deep blue-grey of its frescoes, still well-preserved and illustrating the sophisticated style of Constantinople. In other churches of the valley, like the church of the Virgin Mary, the style is more provincial, showing the hand of local artists.

The barrel-vaulted El Nazar church is an example of a cruciform structure in which the main apse joins directly on to a central square without an intervening east cross-arm. Unlike the Dark church, which includes a refectory and a dormitory, and many of the others, it is not connected with a monastery but set apart in an isolated tent-shaped rock cone.

Over the centuries, the Christians left their settlements and the churches were neglected until the 1920s and 1930s, when the writings of a French priest, Fr. Guillaume de Jerphanion, drew the attention of scholars and tourists. What had been religious communities became farming communities. Peasant families made their homes in the caves, many of them continuing to live there until recent years. In at least one case, this secularization had an advantage: the frescoes of the Dovecote church in Cavusin were well preserved because the church was sealed up until 1964 so that pigeons, valued in the area for their guano, could be kept in it. But the Dovecote church, like the Carikli, or Sandal church of Göreme, has been brutally exposed to the elements. In both cases the narthex, where once congregations stood in worship, has crumbled away and the modern tourist climbs a metal staircase to enter.

For the delicate rock which made the churches possible and the erosion which gave them their unique shapes are today the chief threats to their continued existence. Rain has soaked into the decorated surfaces, fading colours and flaking paintwork. More dangerously, it has seeped into cracks, then frozen and fissured the structures. Göreme is in a seismic zone and it was thanks to an earth-slip that the church of St. John the Baptist was discovered as late as 1957. But tremors have destabilized more churches than they have revealed. Some churches have been totally destroyed, leaving only traces behind.

These threats explain why Unesco has not only put the rock-hewn churches onto its list of monuments belonging to the cultural heritage of all mankind, but has launched an international appeal to save them for future generations. The perils to body or soul which drove the Christian communities of Cappadocia into these bleak valleys have long since faded. The men who conceived the churches, hewed them from the living rock and lovingly decorated them have been forgotten for centuries. But their faith and their artistry created something unique, that still hushes a group of modern visitors into silent wonder. ■

ANTONY BROCK is a Paris-based British writer and journalist who specializes in educational and cultural topics.

LETTERS TO THE EDITOR

■ An issue on death?

Your extremely interesting issue on Sacred Places led me to think about the different ways in which people come to terms with death.

How about an issue of the *Courier* on different customs and attitudes towards death?

Please accept my congratulations on the quality of your magazine.

Cédric Deharbieux
Saint-Georges-d'Orques
(France)

We are considering this as a future theme. Editor

■ Unlovely Hartung

The theme of your December 1990 issue was one of the most edifying subjects in human culture: beauty. You introduced the theme by astutely showing a photo of Marlene Dietrich side by side with a superb profile of Nerfertiti. Then came a series of images and texts which I found quite admirable.

Then, as if you had been leading us up the garden path, you closed the thematic part of the issue by throwing at us a photo (on page 44) of a work by Hans Hartung that is the negation of all you claim to like on the preceding pages. This clumsily executed composition with the colours of a decomposing fish is a stupid work which brings shame on humanity. It is an image of contemporary chaos, without either hope or quality.

Beauty is irrelevant where such a picture is concerned.

Pierre Lohner
Art teacher
Paris

The choice of this painting by Hartung —at the end of a brief survey of art from Fra Angelico to the 20th century—illustrates how modern art broke away from the traditional concept of the beautiful. Your point of view shows something that we wanted to emphasize in our issue—that a feeling for beauty is both deep and relative. Editor

■ Towards the same ideal

I cannot decipher Arab calligraphy and I do not know what feelings guided the hand of Mr. Hassan Massoudy when he drew the magnificent calligraphic design which appears on page 39 of your December 1990 issue devoted to beauty. However, as I look at it through the prism of my Western culture I dream of an irresistible movement in which man is freed from the chains of gravity and soars towards an infinity radiant with peace and serenity.

If I had to choose a work of French literature to illustrate with this calligram, it would be Victor Hugo's poem "Plein ciel" from his collection *La Légende des siècles*, which appeared over a century ago. In this poem Hugo already brilliantly foresaw man freed from gravity and journeying in the infinity of space.

Is it possible that our cultures, different though they are, are converging on the same ideal?

I look forward to reading the *Courier* each month with impatience and curiosity.

Eugénie Guichard
Saint-Michel-sur-Orge
(France)

■ Cars for hire

I enjoyed reading your issue on the Myth of the Automobile (October 1990) but I was sorry there was nothing in it about the use of cars in towns and cities. All major towns and cities today are choked with traffic. Driving around in search of a parking place wastes time and increases pollution. Who will have the courage to tackle this problem?

It has been suggested that traffic in towns should be prohibited, except for priority vehicles such as ambulances and fire engines, and that self-drive vehicles for hire should be made available. Ideally such vehicles would be battery-powered, would function with a magnetic card and be paid for according to the length of time for which they were hired. After use the vehicle would be returned to a special station—the only place where the driver could get his or her card back. Microchip technology is so sophisticated today that this solution would surely be feasible.

In one European country (Greece?) efforts have been made to control traffic by allowing only cars with even registration numbers to be used on even days of the week, and vice versa. Perhaps this system would be more difficult to apply because it requires too many controls... Clearly public transport must be kept. But would it not be possible to simplify the payment system (for example, by charging a single fare in all medium-sized French towns) or even to make public transport free?

Raymond Forget
Gruffy
(France)

■ The notation of figures

Bravo for your issue "A Mathematical Mystery Tour" (November 1989).

However, what I should really have liked to see was a table showing the evolution of the notation of figures from the Indians to the Arabs and in the Middle Ages.

Could you help me to find this information?

Henri Croiset
Sanary
(France)

The Histoire universelle des chiffres *by the Moroccan historian Georges Ifrah (Paris, 1981) provides information of the kind you are looking for.* Editor

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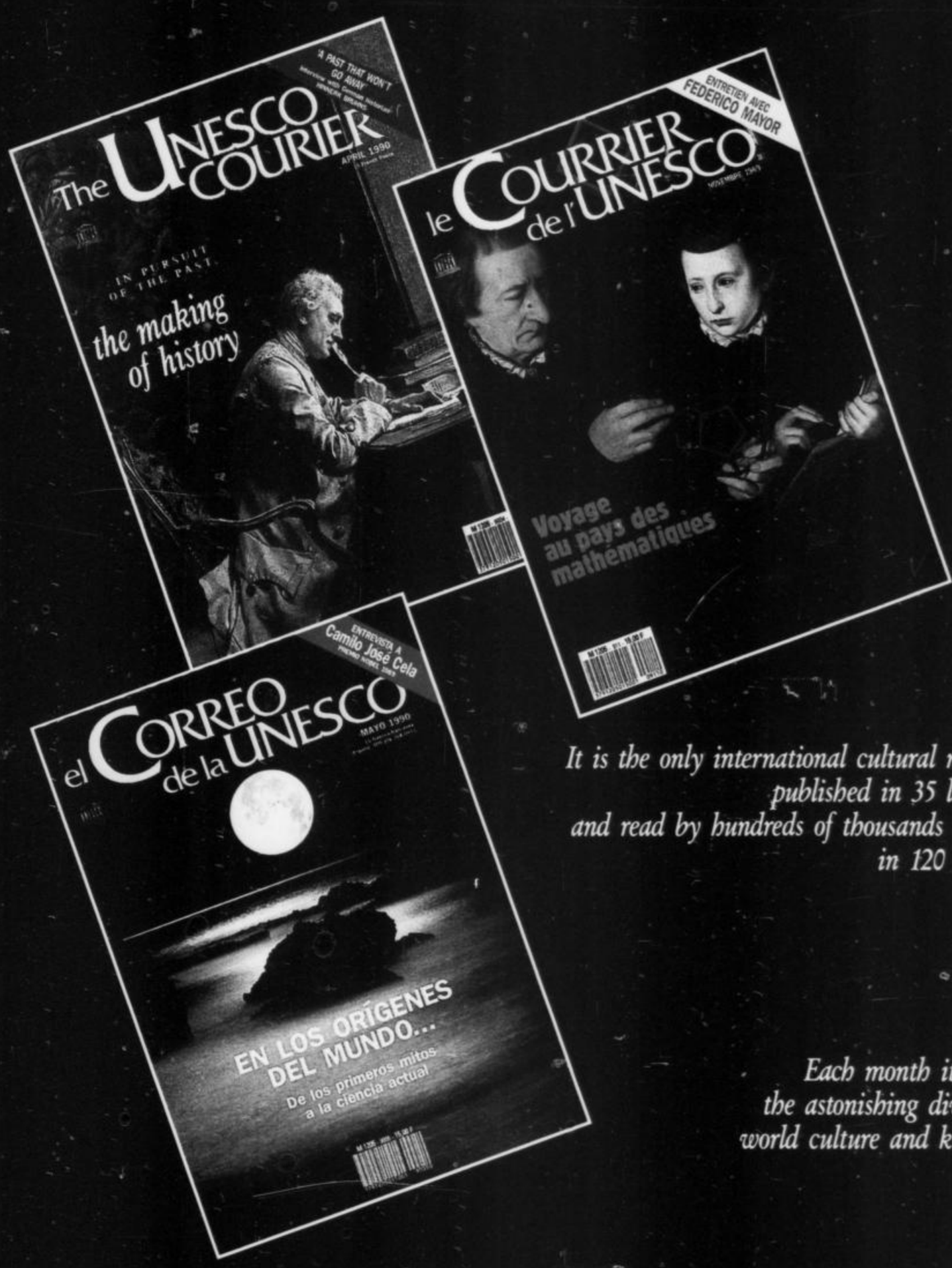

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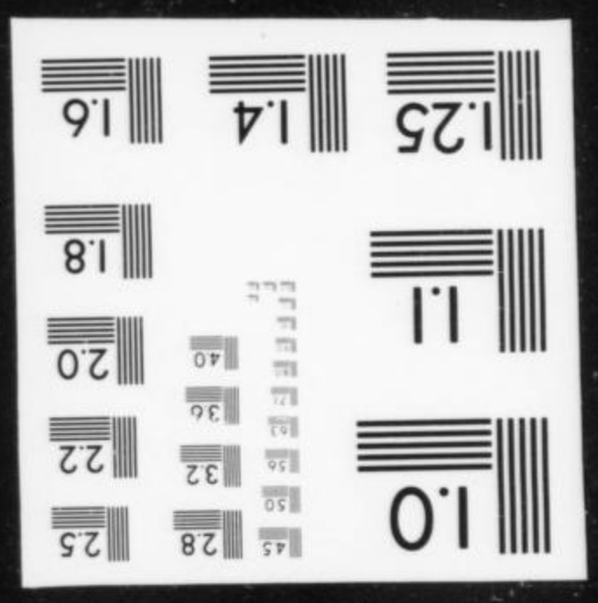
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